Corporate COVID-19 Safety Response, Twitter Sentiment Exposure Influence on Customer-Based Brand Equity, Consumer Attitudes, and Intentions: An Experimental Approach

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Abstract

Qualitative insights drawn from Twitter discourse about or directed to United Airlines and Costco Wholesale pertaining to their coronavirus-related responses, procedures, or operations are used to develop materials and questions used in an experiment. In the experiment reported in this paper, electronic word of mouth (eWOM) communication published by users on Twitter is shown to influence participants' attitudes toward the companies. The authors were interested if a significant difference would be observed in variables measured before and after exposure to Twitter discourse. Measures included brand awareness, brand associations, brand image, brand attitude, perceived quality, trust, loyalty, purchase intention, and customer-based brand equity. Twitter discourse was presented to participants in blocks of material, in random order and counterbalanced, containing either favorable or unfavorable sentiment about the companies. To assess changes in attitude, a measure of brand attitude followed each block of material. Data related to information about participants such as personal Twitter usage, perceived information characteristics of Twitter messages (related to quantity, reliability, quality, and persuasiveness), attitudes about COVID-19 precautionary measures and associated comfort, and perception of greed and blame attribution related to companies of concern was also collected.

Statistical analyses of responses by 305 undergraduate students indicated that eWOM significantly affected attitudes about the organizations. These attitudes were positive for Costco, and negative and of greater magnitude for United Airlines. We also find that comfort in public settings given others wearing mask was our most significant predictor for degree of change in post- and pre-measure scores. Furthermore, we found that the more loyal consumers were before exposure to the messages, the less the Twitter exposure swayed different aspects of their attitudes about the companies. Conclusions from this study have potential significant

implications as no research encountered to date shares a similar objective of analyzing changes in consumer sentiment given exposure to eWOM on Twitter using a before and after research design, while also focusing on company actions in the context of a global pandemic.

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Introduction

The primary motive for this research began as an investigation of corporate scandals and consumer backlash or boycotts that originate from or garner a significant amount of notoriety or traction on Twitter. Specifically, we sought to look at the function of consumer behavior in actively creating such scenarios, as well as analyze the reactions and perceptions of individuals towards organizations after being exposed to various tweets. Given the broad scope of this starting point, several possible directions were considered, such as the existence of "cancel culture," the source of tweets and their perceived credibility, individual loyalty before and after exposure to Twitter discourse, or willingness to purchase before and after exposure to Twitter discourse.

While this project was in development, the coronavirus, or COVID-19, was discovered and quickly developed into a pandemic that reached most countries of the world. As the pandemic sent global economies spiraling into distress with stores and businesses suffering severe disruption of their typical operations or even completely halting operations, this period has proved to be an extraordinary time of hardship for organizations, employees, and consumers. The coronavirus prompted a recession in the United States beginning in February 2020, and the virus has, and continues to, create a wealth of unprecedented circumstances and market conditions, particularly considering decline in employment and production in the United States (Rugaber, 2020). Most organizations at least have found themselves attempting to navigate uncharted territories or at most, have had to fight to stay afloat.

This pandemic presents overwhelming potential research opportunities, across all fields of research, in addition to business research. The initial idea for this project seamlessly translates to the realm of COVID-19, as the world's "new normal" and the transition working to achieve a

state of "new normal" has been anything but simple. Consumers and employees seemingly have more reasons now than ever before to turn to online outlets to speak out against companies' actions or perceived wrongdoings. This especially holds true given that the primary focus of this research is consumer concerns expressed on social media, specifically Twitter. With lockdowns, closed stores, remote or limited workforces and customer service representatives, consumers social distancing, quarantining, or even isolating in their homes, comes individuals increasingly taking to the internet and social media as primary outlets of intake of news and information, as well as expression of opinions, frustrations, or whatever their thoughts may be about organizations.

As a starting point, this project utilized qualitative insights from real-world companies. The insights focused on coronavirus-related actions, responses, procedures, or operations of companies, focusing on related Twitter discourse about or directed to certain companies. Forming the basis of survey questions used in an experimental design, cases surround individuals upset at Costco Wholesale's implementation of a mandatory mask wearing while in-store policy, and a viral photo of a crowded United Airlines plane after a passenger had received notice that middle seats would be blocked. The survey gauges participants' perceptions of the companies before and after being exposed to electronic word of mouth content in the form of curated Twitter dialogue. The core of analysis focuses upon degree of change across variety of attitudinal measures such as customer-based brand equity, while we also investigate the relationship between degree of change and other variables including personal Twitter usage, perceptions of the information characteristics of Twitter, and attitudes about coronavirus precautions or comfort. As real-world scenarios are investigated, this research seeks to educate scholars and provide insightful managerial implications for business professionals. Not only is this study

valuable in understanding consumer behavior and backlash unfolding on Twitter and its effects on consumers' attitudes, but it will also provide distinct knowledge of the expectations and reactions of consumers in regards companies' handling of the coronavirus.

Literature Review

Limited research has evaluated user-generated communications on Twitter that are about or directed to companies while focusing on the effects that such Twitter messages have on attitudes of consumers and the different variables that allow us to understand consumer sentiment. No research to date shares a similar objective of analyzing changes in consumer sentiment of companies given exposure to electronic word of mouth messages on Twitter using a before and after approach, while also contextualized to a globally disastrous event. As such, this literature review examines the most pertinent facets of literature theory that have paved the way for this present study. This review synthesizes the current nature and popularity of Twitter; social media's effects on the field of marketing, consumer behavior, and the relationships between companies, stakeholders, and consumers; corporate crises and disasters; the effects of corporate crises and disasters on corporate reputation and online brand equity; social media's role in corporate backlash, crises, scandals, and boycotts; electronic word of mouth; user-generated content; and customer-based brand equity.

Twitter

Twitter was launched on July 13th, 2006, with the intention of being a short message service (SMS) platform and was developed as a side project of a podcasting platform Odeo, by former Google employees, Evan Williams and Biz Stone, engineer Jack Dorsey (current Twitter

CEO), and software developer Noah Glass (Iqbal, 2020). It has witnessed immense growth since it was developed and reported that global Average Monetizable Daily Active Usage (mDAU) reached UD$187 million in quarter three of 2020, up 29% year over year ("Q3 2020 Letter to Shareholders," 2020). It is a leading social communications medium that has been labeled as a social networking site, social medium, microblogging medium, communication tool, marketing channel, news medium, and community tool, to name a few. Xifra and Grau (2010) described Twitter as "a kind of nano-blogging (or micro-blogging) platform, meaning that it is a system of communication or an internet-based publishing platform through which users can send short text messages."

As other social media sites do, Twitter allows users to establish an online presence, and Chen (2011) contends that the active use of Twitter and its key features, such as tweeting, messaging, retweeting and following, allows people to gratify a need to connect with others. The defining feature of Twitter is known as a 'tweet' and was originally a text-based post of up to 140 characters in length, though it expanded to 280 characters in 2017 (Iqbal, 2020). Tweets also no longer have to be text-based in nature, as photos, videos, gifs, polls, and links can be integrated into a tweet. Twitter users have respective profile pages where their activity of tweets, replies to other tweets, retweets, quote tweets, and likes/favorited tweets are aggregated and displayed as a microblog. Users can "follow" other users so that content from such accounts will be displayed on their timeline, or the primary feed Twitter offers its users. Twitter also allows for direct messaging by sharing messages or sending tweets to other users or groups of other users on the platform, in addition to the capability of tweets to be sent outside the platform.

Twitter contains a massive volume of information that is sorted and categorized for users in several ways. One key method is the use of hashtags, which "help Twitter users more easily

find information related to a topic and contribute to the ongoing discussion around that area of interest" (Gruber, 2015). "Hashtags enable network channels to exchange freewheeling information all across Twitter" (Han & Cho, 2013). They enable the easy discovery of the most popular links or the hottest topics on Twitter, though the "Trending" page also accomplishes this by bringing together the top trending words and hashtags on Twitter and ranking them in terms of popularity. Twitter has expanded upon the "Trending" page, by breaking down trending topics into categories such as news or sports while also curating trending topics specific to users based on their online behavior.

Impacts of Social Media

The implications of the popularity and widespread adoption of social media paves the way to why it is so important to study the effects of social media content. The ways in which the world has been, and will continue to be, revolutionized by social media are boundless. There is no shortage of scholarly research acknowledging how the rise of social media has transformed the world, and moreover how new media tools have revolutionized the business world, specifically in the realms of marketing and consumer behavior. For the purpose of this research, we focus on the business and marketing implications of consumer exposure to information and the manners of consumers communicating on social media.

Many authors discuss and reveal the impacts of social media and the ways it has revolutionized the organization and sharing of information, as social media has become an essential medium for communication. Social media has reshaped the traditional one-way communication presented to individuals from businesses into a multi-dimensional, two-way, peer-to-peer communication (Schivinski & Dabrowski, 2016) "With the rise of social media, the

dynamics of public information flows have changed, as well as the relation between the media, stakeholders and the public" (Stevens et al., 2018). Coombs' work (2015) on ongoing crisis communication describes social media in terms of participation, openness, conversation, communities, and connectedness, which ties into many scholars' discussion of the effects of social media . The work of Seo et al. (2020), for example. notes that "the most important feature of social media content is that users, without constrain on time and place, directly produce and consume desired content", and that this allows for more active and vigorous participation of consumers compared to one-way communication on behalf of companies. As the nature of social media openly allows and invites all users into the conversation, information is not solely produced and disseminated by news media, it is also constructed through the continuous interactions and conversations of users. Han and Cho (2013) assert that social media "are not new anymore," as they have been playing an important role as news disseminators and public spheres for social interaction between users. In the same manner, companies are no longer the sole source of marketing and brand information, with social media providing consumers the ability to interact by means of directing, selecting, and self-producing information (Li and Bernoff, 2011; Stevens et al., 2018). Consumers are involved by means of participation, active dialogue, and interactions, thus co-creating their experiences and values (Algharabat et al., 2020). Essentially, users control the creation and distribution of messages, bypassing the traditional information gatekeepers and signifying the loss of control over the conversation and information for organizations (Coombs, 2015). With such transformations, social media threatened and disrupted long established business models, corporate strategies, and advertising channels, but simultaneously offered a wealth of opportunities for innovation and growth on these channels through adaptive strategies (Hennig-Thurau, 2010).

Crisis communication, effective customer service, optimizing consumer engagement, building relationships, and establishing online brand communities with consumers through social media are a few examples of related topics that have garnered significant strategic and scholarly attention. Such topics fit into a preponderance of research and related fields that exist surrounding social media communications, strategies, and management from an organizational standpoint. As the present research focuses on the perspectives of consumers, aforementioned topics are outside the scope of the present study which specifically draws upon research into topics including electronic word of mouth, crises and disasters, online complaining, customer-based brand equity, and online consumer brand boycotts. All of these topics relate to the sweeping changes social media has brought to how consumers are exposed to information and how they communicate, whether it be amongst themselves or directed to organizations.

Word of Mouth, Electronic Word of Mouth, and User-Generated Content

Vast amounts of literature explore the concept word of mouth (WOM) communication, which is the process of conveying information interpersonally, and subsets of literature investigate different types of WOM and the different effects they carry, such as playing a major role in the buying decisions of consumers (Richins & Root-Shaffer, 1988). Word of mouth describes the act of consumers sharing attitudes, opinions, experiences, information, or reactions concerning organizations, products, or services with others (Jansen et al., 2009). Different forms can include advice-giving and product news, as well as positive and negative WOM, which respectively reflect favorable and unfavorable expressions (Richins & Root-Shaffer, 1988). The effects WOM have been investigated, especially as it has come to be widely regarded as a powerful marketing medium for companies to influence consumers, as it tends to be well-trusted

by consumers, and holds great potential to influence brand images and perceptions (Jansen et al., 2009) Furthermore, the information WOM communicates tends to be accepted by consumers as fair and unexaggerated (Seo et al., 2020).

A key type of WOM communication that encapsulates the electronic and internet-based sharing of attitudes, opinions, experiences, information, or reactions is known as both online WOM (OWOM) and electronic WOM (eWOM). In essence, this is digital consumer articulation, as consumers make use of diverse new media channels to articulate and share their thoughts, comments, and reviews about services, products and companies. Empowered by these new media channels, these messages are easily accessible to other consumers with internet access at any time or place (Hennig-Thurau, 2010). Thus, eWOM offers characteristics consistent with the discussed attributes of new media and social media that traditional WOM does not, including usability, accessibility, and persistence of information (Seo et al., 2020). The work of Jansen et al. (2009) focuses on the power of the microblogging medium of Twitter as it relates to WOM research and points to tweets as definite sources of eWOM. They find microblogging to be an online tool for customer WOM communications, noting that customer brand perceptions and purchasing decisions appear increasingly influenced by internet and social media communication as they are increasingly used as trusted sources of information, insights, and opinions.

User-generated content (UGC), also referred to as user-created content (UCC), "is comprised of various forms of media and creative works (written, audio, visual, and combined) written by Internet and technology users" and is characterized by being published in some context, entailing original or creative effort, and being created outside of professional routines and practices (*Participative Web and User-Created Content*, 2007). User-generated content is considerably similar to eWOM, though researchers differentiate the two concepts in terms of

whether the content is *generated* by consumers or only *conveyed* by consumers (Schivinski & Dabrowski, 2016). In this research, the distinction between the two concepts is not important and they will be used interchangeably. User-generated content meeting the aforementioned definition of eWOM will be considered eWOM.

Crises and Disasters

The relationship between social media and the existence of crises and disasters has been well studied. The field of crisis communication has evolved to accommodate the internet and social media, as social media has added an additional layer to broadening the view of crises (Coombs, 2015). “A crisis is the perception of an unpredictable event that threatens important expectancies of stakeholders related to health, safety, environmental, and economic issues, and can seriously impact and organization’s performance and generate negative outcomes” (Coombs, 2015). Furthermore, corporate crises have also been defined as “an unexpected, nonroutine event that creates uncertainty and threatens an organization’s priority goals” (Seeger et al., 1998). Seeger et al.’s conceptualization of crises raises important issues for companies: proving to be a threat to a firm’s social legitimacy, resulting in evidence being scrutinized to ascertain what went on, and introducing the question of who to blame or who is at fault. According to Dean (2004), crises tend to result in negative publicity for corporations, which has the potential to damage corporate image. To explain this, research points to the negativity effect, which according to Mizerski (1982), is the tendency of people to give more weight to negative than positive information in evaluation, as well as the high credibility of publicity, “generally acknowledged as more credible and more influential than company-controlled communications,” according to Bond and Kireshenbaum (1998).

Disasters, on the other hand, are events characterized by being sudden, large in scale, seriously disrupting routines of systems, requiring new courses of action to cope with the disruption, requiring response from multiple governmental units, and posing a danger to values and social goals (Coombs, 2015). The key difference between crises and disaster is that crises are internal, resulting from risks specific to the firm, while disasters are external and arise from risks originating outside of the organization (Tew et al., 2008). The public health crisis of the coronavirus pandemic fits all of the characteristics of a disaster and has been labeled "a global public health disaster" that has required companies globally to adapt and cope with unprecedented circumstances (Alabdulmonem et al., 2008). For the sake of this research, the coronavirus is considered a disaster facing organizations worldwide.

The concept of brand burn relates to how companies are impacted by disasters, where brand burn describes "the accidental negative impact formed on a brand due to a crisis outside the control of an organizations, which many are not perceived as directly related to the organization's product or management" (Balakrishnan, 2011). The idea of mitigating risk presented by scenarios outside of an organization's control has been studied in research investigating brand management in the context of a wide variety of external scenarios such as terrorism and the SARS epidemic of 2003 (Balakrishnan, 2011; Tew et al., 2008). Disasters have potential to spawn organizational crises, which can violate the expectations of stakeholders regarding how organizations should act and can damage an organization in many ways, such as financial losses, injuries or deaths to stakeholders, tarnishing of a brand name or reputation, or environmental harm (Coombs, 2015).

As a testament to the impacts of social media on organizations and how they are affected by consumers and how their relationships with stakeholders and consumers have changed,

research points to the many communication channels of the internet such as social media increasingly playing a role in organizational crises. The case study of Gruber et al. (2015), for example, looks at the role that social media, and Twitter in particular, have played in crises for a variety of organizations, demonstrating the real-time power of the platforms. The scholarly study of internet crisis potential has been investigated to further study the increasing empowerment of stakeholders in a hyper-connected economy ("Anatomy of a Social Media Crisis," 2020). Mei et al. (2010) elaborate on how new media can be key in escalating crises, pointing to the effects of certain characteristics of new media in worsening crises for four different companies. It was noted that the ease of diffusion on the internet, due to no geographic or spatial boundaries and relatively low barriers gain access, is notable in spreading awareness of crises and allowing for further circulation and perpetuation of the crises. Throughout Mei et al.'s case studies (2010), rapid escalation of crises was investigated in terms of the speed of the use of the internet in spreading bad news, and quick escalation was found to be tied to the use of multimedia, as information can be conveyed in a variety of different ways and easily shared across platforms. Furthermore, it was noted that just as these crises gain momentum online, the remnants of the crises continue to linger following the crises, as the internet stores information indefinitely making traces of crises communication everlasting.

The concept of organizational crises and managing them has been researched in depth throughout scholarly study. Crises can be conceptualized in terms of traditional and social media crises. While traditional crises tend to concern issues of public safety and welfare, social media crises are events that harm an organization and arise in, or are amplified by, social media, though these can also contain elements of public safety and welfare (Coombs, 2015). Social media crises can be further categorized based on origin, in terms of organizational actions, like organizational

misuse social media crises, or in terms of stakeholder actions. Social media crises brought on by stakeholder actions are further broken down by challenges, when stakeholders perceive an organization's behaviors or policies are inappropriate or irresponsible, or customer complaints in the form of dissatisfied customer social media crisis. Challenges, based on the notion that an organization is acting irresponsibly, can tarnish reputations, which "are built on meeting stakeholder expectations" which Forbrun and Van Riel assert in Heugens' book (2004). Challenges can further be categorized in terms of a misalignment of expectations that tends to occur naturally; an expose challenge that arises when stakeholders prove an organization's words are inconsistent with its actions; or a villain challenge, when a series of arguments ensues between an organization and group of stakeholders (Coombs, 2015). Coombs further describes dissatisfied customer social media crises as more of a customer relations problem than a crisis, noting that they could be early warning signs of deeper crises, particularly when many customers emerge in organized efforts or spontaneously report similar problems or product failures. Viewing these scenarios in the context of the disaster of the coronavirus pandemic, we can categorize our case with United Airlines as a social media crisis arising from an expose challenge, and our Costco Wholesale situation as a dissatisfied customer social media crisis.

As it has been established that social media has transformed the manner in which customers communicate with firms, it must be acknowledged that this has transcended to the realm of customer service and service failures. Coombs' description of a dissatisfied customer social media crises, as well our prior discussion of eWOM, are similar to and overlapping what other researchers refer to 'complaining'. In a world before social media, dissatisfied customers tended to complain in the form of negative direct word of mouth, which limited the communication to a relatively small audience of consumers or employees, or they kept

complaints to themselves following negative experiences, perceiving that the hassle and costs of complaining likely exceeded the possible benefits (Tripp and Grégoire, 2011; Grégoire et al. "A Comprehensive Model," 2010). However, the advent and prevalence of social media has empowered consumers to complain publicly and online, and many customers now look to social media as an outlet to quickly and simply vent their grievances with, or retaliate against, a company following any form of experience that does not meet their expectations (Grégoire et al. "A Comprehensive Model," 2010). This idea is supported by the work of Hai-Jew (2017), who posits that information and communication technology provides many opportunities for customer expressions of vengeance, payback, retribution, or revenge against companies, all of which is made possible by its characteristics of pseudo-anonymity, quick dissemination of information, perpetual storage of information, and mass reach, as well as a variety of other cultural and psychological phenomena. This research of the current nature of online vengeance aligns with other consumer behavior investigations and the interest of consumers to punish those whose actions do not align with their expectations. Furthermore, Hai-Jew (2017) also speaks to the effects that such online vengeance behaviors may have on others in saying, "Human nature, in interaction with social network technologies, may engage in rushes to judgement".

The work of Grégoire et al. (2015) on managing social media crises describes six different types or forms of social media complaining, organized based on severity and outcomes as the good, bad, ugly. While 'the good' represent opportunities for companies to gain visibility on positive customer service, the negative sides, 'the bad' and 'the ugly', open a firm up to the risk of a serious social media crises, especially in ugly cases that can be the pinnacle of public threat and crisis to an organization (Grégoire et al. "Managing Social Media," 2015). It must be noted that Grégoire et al. (2015) conceptualized all of these types of complaining to be related to

the existence of a product or service failure, or a double deviation, which occurs following both a service failure and a failed recovery, twice deviating from the expectations and norms of customers, tied to the tattling and spite denominations of online complaining (Tripp & Grégoire, 2011). The research of Tripp and Grégoire (2011) found that 96% of complaints posted to consumeraffairs.com and ripoffreport.com followed a double deviation. Their work also found that online complainers tend to be motivated by feelings of betrayal, as opposed to mere dissatisfaction, believing that an organization violated the norms of a customer-company relationship, seeing vengeful public action as justified, or even noble, and a wish to avoid the company permanently. Furthermore, they found that compared with casual customers, the best customers feel more betrayed, resulting in more persistent and vengeful complaining efforts, turning these customers into an organization's worst enemies.

Customer revenge, which has been defined by Zourrig et al. (2009) as "customers causing harm to firms after an unacceptable service," is a key driver of negative WOM, vindictive complaining, and switching for a suboptimal alternative. Grégoire et al. (2010) propose a distinction between direct and indirect revenge behaviors, respectively representing "face-to-face" responses that put pressure on frontline employees, as opposed to the behaviors "behind a firm's back" that are difficult to control, such as negative WOM and oWOM. Distinguishing between complaining and negative WOM, "online complaining is mass-public oriented, reaches a larger audience, and includes a clearer intent to 'get the firm in trouble.' This conception of online complaining is rooted in a consumer's motivation, though it does fit the present study's prior definition of eWOM. Grégoire et al.'s study (2010) also investigates, in the context of revenge, the role played by a customer's perception of a firm's greed, or according to Crossley (2009) "a perception that a firm has opportunistically tried to take advantage of a

situation to serve its best interest (i.e., profit), in a way that is detrimental to the customer". Grégoire et al. (2010) found perceived greed to be the most influential cognition that leads to customer desire for revenge, finding it more influential than other cognitions such as fairness and blame. While for this research, we do not wish to focus on perception of fairness, it is important to look at the cognition of blame attribution that has before been studied in relation to customer revenge. Blame attribution is defined as "the degree to which customers perceive a firm to be accountable for the causation of a failed recovery" (Grégoire et al. "A Comprehensive Model," 2010), and according to Weiner (2000), an attribution of blame is made "when consumers judge that a firm had control over an incident and did not prevent its occurrence" Furthermore, Grégoire et al. (2010) investigate customer power, defining it as "a customer's perceived ability to influence a firm, in the recovery process, in a way that he or she will find advantageous," and concluded the effect of power on revenge behavior rests on the customer's consideration of whether the firm will counter-retaliate.

Brand Equity and Customer-Based Brand Equity

In analyzing how to measure consumer attitudes and individual sentiment towards companies, and to measure change in attitudes and sentiment given the presence of crises, disasters, positive/negative eWOM, or consumer brand boycotts, my research led to the study of brand equity. Yoo et al. (2000) defines brand equity as "the difference in consumer choice between the focal branded product and an unbranded product given the same level of product features." Research surrounding brand equity has been analyzed for a variety of motivations, from many different perspectives, and has adopted several different focuses, likely because many study the manner in which it increases value for firms and customers as it is has been categorized

as an asset or source of sustainable competitive advantage (Yoo et al., 2000) Motivation for the study of brand equity was identified by Keller (1993) in terms of two general fields: financially based motivation to estimate the value of a brand for accounting, merger and acquisition, or divestiture purposes; or strategy-based motivation to improve marketing productivity. Scholars have taken different approaches when studying brand equity to include the customer mindset, the product market, and the financial market (Rodrigues & Martins. 2016). For the purposes of this research, we focus on the attitude and perspective of the individual customer or consumer, known as customer-based brand equity.

Customer-based brand equity, also called consumer-based brand equity (CBBE) is an area of study that has been defined as "the differential effect of brand knowledge on consumer response to the marketing of a brand" (Keller 1993). Keller's work notes that a brand is said to have positive (negative) CBBE if consumers react more (less) favorably to a marketing mix element for the brand than they do to the same element when it is attributed to a fictitiously named or unnamed version of the product or service. Keller's conceptualization of CBBE considers brand knowledge in terms of the main components or constructs of brand awareness and brand image. Accordingly, "brand image refers to the set of associations linked to the brand that consumers hold in memory" while "brand awareness relates to brand recall and recognition performance by consumers". Brand associations are often understood in relation to brand awareness, as associations have to do more with recall of a specific brand name, logo, packaging of a product (Hoa Thi Hoang et al., 2020).

Several different components of brand equity have been proposed. Aaker (1996) has argued it consists of brand loyalty, brand awareness, perceived quality, brand associations, and other proprietary brand assets. Yoo et al. (2000) adopts perceived quality, brand loyalty, and

brand awareness with strong brand associations as common dimensions of brand equity. Brand loyalty is generally described in terms of consumer preference for a specific brand, typically on a consistent basis. Perceived quality is defined by Yoo et al. (2000) as a measure of consumers' "subjective judgment about a brand's overall excellence or superiority and addresses overall quality rather than individual elements of quality." The work of Rodrigues and Martins (2016) proposes that consumer-based brand equity should be understood in terms antecedents and consequences. Their work poses that there should be a distinction between perceptual dimensions that determine brand equity (brand awareness, perceived quality, and brand personality), and behavioral dimensions that are the reaction of the capital attributed to a brand in consideration (brand loyalty and willingness to pay a premium price). For the purpose of this work, there will be no distinction between the antecedents and consequences of brand equity, as all constructs have been studied to be related to CBBE. Taking previous research into account, this study considers brand awareness, brand associations, brand image, perceived quality, and brand loyalty to be representative dimensions of customer-based brand equity that form the comprise this study's CBBE variable.

It is important to narrow down our theoretical understanding of customer-based brand equity even further and look at existing literature that investigates the field as well as social media. The work of Chou (2014) focused on the influence path from social media characteristics to brand equity, adopting measures of brand equity to include price premium, perceived quality, perceived value, awareness, and repurchase intention. This study looked at the aforementioned characteristics in the context of an online brand community and found that brand equity is significantly enhanced by stronger online community relationships, which in turn are strengthened by the social media characteristics of knowledge sharing mechanisms and platform

quality. In addition to the scholarly focus on the presence of online communities in relation to brand equity, scholars have also investigated customer brand engagement (CBE) on social media and how it impacts dimensions of CBBE (Algharabat et al., 2020).

Given that existing research tends to focus on the effects of social media marketing efforts on behalf of a company, limited studies on the relationship between eWOM, brand equity, and brand equity constructs exist, such as one demonstrating eWOM to have a significant effect on brand awareness (Seo et al., 2020). The work of Seo et al. (2020) sought to study the effect of social media usage characteristics (personality characteristics, social characteristics, and information characteristics) on eWOM, trust, and brand equity, basing their study around airline social media. They found that the information characteristics of social media have a significant effect on eWOM, indicating that the higher quality, reliability, and amount of information on social media are associated with a more active role of eWOM. This study also found that eWOM had a significant effect on brand awareness, as well as that trust had a significant effect on both brand awareness and brand image, the two previously established constructs of brand equity, showing that eWOM generated through the use of social media has a significant impact on airline brand equity through trust.

The work of Bambaur-Sachse and Magold (2011) investigates the dilution of brand equity through negative eWOM communication, focusing on eWOM in the form of product reviews on opinion platforms. This study found that this form of negative eWOM had detrimental effects on consumer-based brand equity and led to significant brand equity dilution. They also found that even brands with whom consumers have considerable brand knowledge are not immune from such detrimental effects, as well as showing that these effects exist independently of personal variables such as susceptibility to online product reviews.

Shivinski and Dabrowki (2016) looked into the effects of social media communication (user-generated and firm-generated) on consumer perceptions of brands found that user-generated social media communication had a positive influence on both brand equity and brand attitude, while brand equity and brand attitude were both shown to have a positive influence on purchase intention.

Online Consumer Brand Boycotts

It is crucial to discuss the existence of consumer boycott movements and behaviors in relation to the study of aforementioned topics of social media, negative eWOM, and consumer-based brand equity as the present study's examination of Costco includes a boycott that took shape on social media. Friedman (1985) has defined a consumer boycott "as an attempt by one or more parties to achieve certain objectives by urging individual consumers to refrain from making selected purchases in the marketplace". McGriff's (2012) work describes different types of boycotts and details boycotts in relation to online brand equity, saying that the perceptions and feelings about a brand that are associated with brand equity, that typically do not have to deal with purely physical characteristics of a product are service, are potentially harmful to companies due to nature of communication in an online environment. Customer activism is also discussed, in addition to the power of negative brand information and its ability to quickly and powerfully diffuse.

Case Study Methodology

The theoretical basis of this research is not only the literature review, but also qualitative case studies investigating companies facing criticism online or negative eWOM for their actions, policies, or responses related to the coronavirus. These case studies provide an overview of the actions of specific organizations and the different aspects of public response. Notable examples based on analysis of social and news media include but are not limited to FedEx; Tesla; McDonald's; Costco; Amazon; Kroger; Yelp and GoFundMe; Hertz; meatpacking plants such as Smithfield, Tyson Foods, and JBS America; cruise ship companies such as Carnival Cruise Line and Celebrity Cruises; and airlines such as United Airlines, Frontier Airlines, and Delta Air Lines. All companies have notably faced widespread backlash from users on social media, specifically identified on Twitter. The organizations in consideration began as those large organizations receiving backlash that seemed to be generating the most notoriety on social media and traditional news outlets. No quantitative methodology was used in selecting organizations to be included, as such a process is outside the scope of this research.

Of the companies considered, many examples were ruled out for inclusion in this study on the basis of subject matter. Specifically, many examples of pushback against an organization's handling of the pandemic are heavily rooted in the dissatisfaction of employees of the organization, and social media users' subsequent alarm over treatment of employees, such as situations surrounding Amazon and Tesla. Such examples pertain to putting employees' safety at risk or perceived mistreatment in terms of anything from lacking personal protective equipment; COVID-19 leave guidelines; bonus compensation and compensation related to COVID-19 leave; disdain for worker's rights; retaliation or termination for speaking out, protesting, making demands, walking out, striking, or unionization attempts; and more. Thus, United Airlines and

Costco Wholesale Corporation were chosen as companies of focus given their situations revolved around consumers, and the companies were generally large and well-known. Because the nature of this study is rooted in real discourse and because the purpose of this research is to gauge sentiment of real-world examples using real examples and real companies, we use real tweets from users. While fabricated examples and tweets were a possibility with potential to investigate even more variables and the ability to have more control over scenarios to be analyzed, the utilization of real content is essential to the present study and its potential implications. Tweets included in the case studies and subsequently the survey portions of this research have also not been selected on purely quantitative basis. The tweets included in the research were gathered mostly on the basis of popularity, as I have sought out some of the most popular tweets and most liked and retweeted tweets associated with each case's Twitter discourse.

Case Studies

Costco Wholesale Corporation

Costco Wholesale Corporation (Costco) is a global retailer based in the United States that began operations in 1976 and has since grown to hundreds of locations in eight different countries. Costco is a membership warehouse or wholesale club, dedicated to bringing its customers the best possible prices on a wide selection of brand-name merchandise, while also offering additional specialty departments and exclusive member services such as pharmacies and gasoline stations ("About Us," 2020). It is among the largest retailers in the world, known for its discount prices of bulk quantities of merchandise, sold to members who pay an annual membership fee. Stores typically carry supermarket items but also a wide variety of various merchandise, including some luxury goods (Lewis, 2017).

On April 29th, 2020, Costco introduced a new store policy (Stump, 2020). The company's CEO, Craig Jelinek, announced in a statement that, "To help protect our employees and members, effective May 4th, 2020, all Costco members and guests must wear a face covering that covers the mouth and nose, at all times while at Costco" (Jelinek). Prior to this announcement, Costco had taken steps to limit store traffic to two people entering per membership card, halt any distribution of free samples of food items, disallow returns for items in high-demand, and grant exclusive store access and shopping times to health care workers, first responders, and members over the age of sixty (Stump, 2020). This announcement specifically expanded upon the preexisting policy requiring employees to wear face coverings, mandating now that members must also wear them, with the exceptions of children under the age of two and individuals unable to do so due to medical conditions. The policy aligns with U.S. Centers for Disease Control recommendations of using face coverings in public settings where social distancing measures are

difficult to maintain as the "CDC advises that face coverings can help slow the spread of the virus, including among those who are not aware they carry it" (Jelinek, 2020).

Costco's expansion of their face covering policy to their customers must be understood in relation to the timeline of recommended and required face covering policies in the United States. In the early stages of COVID-19, many federal health officials and leading United States political figures had signaled that the wearing of masks by healthy individuals was not necessary in most circumstances. However, on April 3rd, 2020, the CDC deviated from that advice, recommending the use of non-medical face coverings in public when social distancing is difficult to maintain, such as in grocery stores and other public spaces, particularly in areas with significant amounts of community transmission (Megerian et al., 2020). As increasing data came to light about the nature of the transmission of the virus and the importance of face coverings in preventing its spread, mask usage became more widespread. U.S. Surgeon General Jerome Adams stated that federal government advice about masks had been "confusing to the American people" (Megerian et al., 2020). This lack of clear guidance, the time taken to reach scientific consensus, discouraging messaging about face coverings from key political figures like President Donald J. Trump, along with a myriad of other factors, all likely contributed to mask-wearing becoming a rather divisive issue of public opinion in the United States (Dwyer & Aubrey, 2020).

Looking past the dynamic sentiment surrounding face coverings that, it is necessary to investigate when face mask requirements became widespread or required throughout the country. Mask mandates, policies, and recommendations imposed by state lawmakers widely varied in timelines and policy specifications. At the time of Costco's announcement on April 27th, 2020, state mandates were not ubiquitous. "Between April 8th and May 15th, governors of fifteen states and the mayor of Washington, D.C., signed orders mandating all individuals who can medically

tolerate the wearing of a face mask to do so in public settings" (Wei & Wehby, 2020). States with face covering mandates in order prior to April 27th include but are not limited to New York, New Jersey, Connecticut, Maryland, and Hawaii (Markowitz, "Does Your State," 2020 ; Hogan). As of October 1st, 2020, thirty-three states, The District of Columbia, and Puerto Rico required face coverings in public (Markowitz, "Face Masks Required," 2020). Thus, it is clear that Costco's announcement certainly preceded the policies of many states, in some cases by nearly three months. It is likely that this timing could have affected the public's immediate attitudes and tweets about the policy to some extent.

Yet another important consideration in this case is the timing of Costco's face covering policy relative to when other large national retail chains adopted the same or similar policies mandating face coverings across their stores. Attention shall be directed to the ten largest retailers in the United States ranked based on sales according to the National Retail Federation of, in order, Walmart (which owns Sam's Club), Amazon, Kroger, Costco, Walgreens, Home Depot, CVS, Target, Lowe's, and Albertsons. It is essential to note that Costco was the first to implement this policy, effective May 4th, while the policies of eight other retailers on this list did not take effect until mid to late July, and Target's policy went into place on August 1st, 2020 (Markowitz, "Face Masks Required," 2020). Clearly, Costco's policy was implemented well before similar retailers. Such context is vital in analyzing the public attitudes and the Twitter discourse related to Costco's policy, the temporal juxtaposition of face covering requirements has the capacity to influence individual's immediate and retrospective perceptions of Costco's actions.

Circling back to Costco's statement, Jelinek seems aware of the divisive public opinion surround mask-wearing and acknowledges the possibility of members being opposed to the new

policy, questioning the policy's effectiveness, or regarding it as "inconvenient" or "objectionable". To this, he states, "Our responsibility is to provide the safest possible shopping environment, and our position is that a face covering helps ensure that", "under the circumstances we believe the added safety is worth any inconvenience", and points to the wearing of face coverings "not simply a matter of personal choice" as the decision affects others besides the wearer. The policy is referred to as a "simple act of safety and courtesy" that is essential for members and employees to abide by "as a part of a community" (Jelinek, 2020).

The statement communicates that at least to some degree, the organization anticipated opposition to the new policy. Following the announcement, Costco was immediately subject to scrutiny on social media. "Costco faced immediate backlash from a sizable number of people who declared they would no longer shop at the big-box retailer if forced to cover their faces" (Walansky, 2020). The collective efforts of these dissatisfied customers certainly fit our earlier conception of a dissatisfied customer scandal, as there were plenty of customers echoing that sentiment and calling to boycott the organization. According to us.trend-calandar.com, a website of archives of Twitter and Google trending words rankings, "#boycottcostco" ranked sixteenth in Twitter's top trending topics and words on May 8th, 2020 ("Trending Words," 2020). Of course, the hashtag is not all-inclusive of those tweeting on the matter as "#Costco" and other hashtags were attached to tweets, or in some cases, none were used. By no means were all of the tweets produced incorporating this hashtag expressing disagreement with Costco's new policy or unwillingness to patronize the organization. Many utilized the hashtag to express their personal opinions. In fact, "It would seem that the supporters of Costco also hijacked the boycott trend" (Sanyal, 20290). Opinions became polarized, and "Twitter was abuzz with two conflicting trends on Friday, May 8th. There were those who wanted to 'Boycott Costco', and there were those who

were standing to ‘Support Costco’, with both hashtags emerging around the discourse” (Sanyal, 2020). Furthermore, a viral video of a Costco employee confronting a customer who refused to follow the company’s mandated face covering policy went viral, with many either praising the employee or siding with the customer, attracting additional attention to the social media presence of this situation. The following tweets from different points in time have been chosen to represent the Twitter activity surrounding Costco’s mandatory face-covering policy, separated by those in opposition of the policy or boycotting the organization, and those in support of the policy:

Tweets in Opposition of Costco (April 19th – May 18th, 2020)

(@BardsFM, 2020)

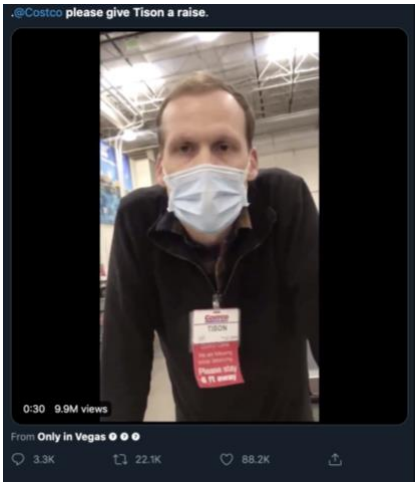
(@mrshelpmeet, 2020)

(@K_S_Christmas, 2020)

(@rnbbecker, 2020)

Tweets in Support of Costco (May 8th – 18th, 2020)

(@elonjames, 2020)



(@notcapnamerica, 2020)

(@RationalBlonde, 2020)

(@ManikMagar, 2020)

(@Jeaniene_Frost, 2020)

United Airlines, Inc.

United Airlines, Inc. (United) is a major American international airline whose parent company, United Continental Holdings, is headquartered in Chicago, Illinois. Since its beginning in 1929, founded by William E. Boeing and Frederick B. Rentschler as United Aircraft Transport Corporation, the organization has grown (*Encyclopædia Britannica*, 2020). With 1,348 total planes in its fleet, United is one of the largest competitors in the United States airline industry ("Corporate Fact Sheet," n.d.). In 2019, United ranked second in carrying the most passenger traffic, measured by revenue passenger miles (RPM), and ranked fourth among competitors in terms of revenue (Russell, 2020). The airline describes themselves as possessing the "world's most comprehensive route network", currently serving North America, Latin America, the Caribbean, Europe, and Asia, offering destinations of 362 airports ("Corporate Fact Sheet," n.d.). United has a dynamic history of pioneering many "firsts" in the airline industry, expanding services and routes, restructuring, and merging with and acquiring other airlines. Most recently and notably, the airline acquired Continental Airlines in 2010.

The coronavirus pandemic has dealt the global aviation industry a multitude of unprecedented shocks and challenges, knocking the industry off of its feet in a manner comparable only to that of the events of September 11th, 2011. The industry is highly vulnerable

to external factors and disasters such as terrorism, oil crises, natural disasters, economic recessions, and disease outbreaks, like COVID-19 (Suau-Sanchez et al., 2020). Due to the pervasive geographical spread and the highly contagious nature of the coronavirus, the CDC discouraged all forms of travel, stating, "Travel increases your chance of getting and spreading COVID-19. Staying home is the best way to protect yourself and others from COVID-19" ("Travel During the COVID-19 Pandemic," 2020). Aside from general deterrence of travel impacting demand for air travel, depression in demand became a function of international and domestic travel bans and restrictions; border closures; restrictive policies such as mandatory quarantines for travelers; flight cancellations; aircraft groundings; lockdowns; business shutdowns such as those in the leisure and hospitality industry; and sharp declines in tourism, discretionary travel, and travel for business purposes. The global restrictions limiting legal travel are particularly notable, with a report released by the United Nations World Tourism Organization stating that, "never before in history has international travel been restricted in such an extreme manner", with over 200 countries and territories implementing policies restricting or deterring the inflow of travelers through their borders (Lee, 2020). Some of the worst shocks to the industry came in March and April 2020, and on April 7th of 2020, the total U.S. fliers screened by TSA fell below 100,000 for the first time in the agency's history, representing a 95% drop in screenings from the same day in 2019 (Ellwood, 2020). Six months following, for the week ending on September 20th, 2020, it is reported that passenger volumes remain 68% below same day 2019 levels U.S. airlines, with domestic air travel down 66% and international down 84% ("Impact of COVID-19," 2020). Looking forward, the International Air Transport Association has stated that it does not expect the air travel industry to recover, meaning return to 2019 levels of traffic and revenue, from the effects of the coronavirus pandemic before 2024

(Slotnick, 2020). It is certain that "aviation is among the industries hardest hit by the global pandemic, a reality illustrated as major U.S. carriers tallied another round of massive losses due to the havoc wrought by COVID-19", in reference to the reported second-quarter 2020 after-tax net loss of $11 billion for U.S. airlines roughly doubling the collective $5.2 billion loss in the first quarter of 2020 (Gibson, 2020).

Such financial losses are not necessarily fully representative of all of the hardships facing organizations. Airlines have also had to make substantial operational process and policy changes in the form of health and safety precautions and customer service provisions, seen sharp declines and volatility in their stock prices, and have had to consider making significant changes in their workforces. In the United States, the Coronavirus Aid, Relief, and Economic Security (CARES) Act was passed on March 27th, 2020, extending $25 billion in federal aid to airlines in federal payroll grants prohibiting the cutting of jobs through September 30th, 2020. As the potential provision of additional federal assistance to airlines is still uncertain, the outlook of layoffs and furloughs for industry jobs is expected to be deeply troubling (Josephs, 2020).

Air travel in light of the coronavirus pandemic looks vastly different in a variety of ways, mostly with new policies and procedures intended to support accommodations that keep airline passengers and staff as safe and protected from exposure to the virus as possible. To name a few examples, organizations have changed boarding and disembarking procedures, expanded their cleaning and sanitization procedures for their aircrafts, mandated the wearing of face coverings, improved air circulation and filtration systems, required health assessments for passengers, modified in-flight service offerings, and limited flight capacity to better align with social distancing measures, such as not selling middle seat tickets. United Airlines was the first major U.S.-based airline to require flight attendants to wear a face mask while on duty and expanded

this measure to include all employees and customers on board in May 2020 ("United Strengthens Mask Policy," 2020). This policy aligns with the actions of most major U.S. airlines, that started requiring face covering on board flights in early May (Knight, 2020). Regarding precautionary policies and procedures, "The federal government has continued to leave it up to the airlines to regulate themselves regarding masks and other policies to foster consumer confidence in air travel" (Knight, 2020).

A tweet from May 9th, 2020, written by Dr. Ethan Weiss (@ethanjweiss) garnered significant attention, going viral on Twitter with 10,000 retweets between May 9th and May 12th, and circulated substantially among major national news outlets, making headlines on television news programs, such as ABC's World News Tonight (Hider, 2020). The doctor was returning home to California after assisting healthcare workers in New York City while the region was an epicenter of the pandemic. His tweet reads, "I guess @united is relaxing their social distancing policy these days? Every seat full on this 737" and included a snapshot of the aircraft seemingly full. "While most of the passengers wore masks during the flight, they were seated just inches apart, making proper distancing impossible" (Hider, 2020). The original tweet is accompanied by a thread of six other Tweets from Weiss, expanding on his original commentary. In the thread, Weiss tweeted, "Also I guess a lot has changed in 10 days", with a screenshot of an email he received from United 10 days prior containing a message from United's Chief Customer Officer that details the organization's safety protocols, highlighting in the company's statement, "We're automatically blocking middle seats to give you enough space on board." This tweet highlights this case's conceptualization as an exposé scandal, as it is clear that consumers felt concerned that the organization did not act in line with the expectations that they set the consumers up to expect. The fifth tweet in his thread expands on the perceived service failure committed by

United, with Weiss including that “they could have avoided this by just communicating better”. This tweet and its thread garnered a variety of replies, with some expressing their belief that United was acting out of greed in placing profits ahead of health in selling their middle seats, while others tweeted in defense of United in a variety of ways, even blaming Weiss for boarding the aircraft. ABC’s World News Tonight tweeted video coverage of this story, different from the story they aired on television, in which an unnamed individual interviewed in an airport echoed the narrative of perceived greed related to this situation saying, “Are we talking about revenue for the airlines or are we talking about safety for the people, because they’re on two completely separate wavelengths” (@ABCWorldNews, 2020).

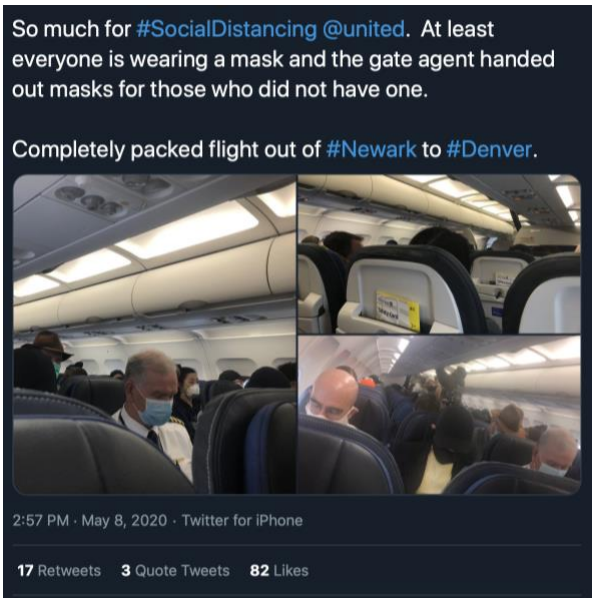
While this was one of the most notorious examples criticizing the delivery of policy on United’s behalf, it certainly is not the only example. Another tweet from May 8th, the day before Weiss’s tweet, by user @comilla_s showcases three photos of what the user describes as a “Completely packed flight” from Newark to Denver. Though such examples dealing with criticism of United are highlighted in this case study, viral tweets circulated regarding American Airlines and Delta Airlines flying near full capacity in the same time frame (Hider, 2020).

In response to this online criticism, United tweeted on May 11th, “Starting next week, customers on flights that are expected to be closer to full capacity can rebook on a different flight or receive a travel credit. We’ll do our best to reach out about 24 hours before departure and we’ll also provide options at the gate,” with a link to their website with an overview of the measures associated with United’s CleanPlus, the company’s commitment to cleanliness, health, and safety (@united, 2020). A spokesman for United, Charles Hobart, has said, “We’re not alone in the industry that some of our flights—though very rarely—depart with higher-than-normal load factors,” also noting that their policy of increased transparency and options to rebook travel

plans for all flights with 70% or greater load factors was later praised by Dr. Weiss (Goldstein, 2020).

The following tweets from different points in time have been chosen to represent the Twitter activity surrounding United's perceived service failure, separated by Dr. Weiss's original tweet (or series of tweets) that is critical of United, those responding to Weiss's tweet with criticism of United, and those responding to Weiss's tweet in defense of United:

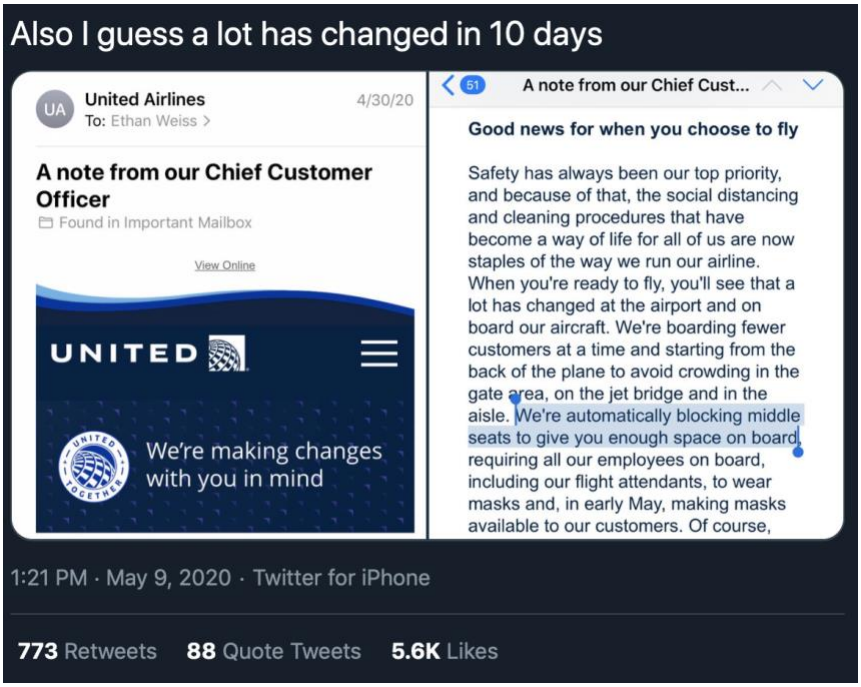
Tweets Critical of United (May 8th – 10th, 2020)



(@comilla_s, 2020)

(@ethanjweiss, 2020)

(@ethanjweiss, 2020)

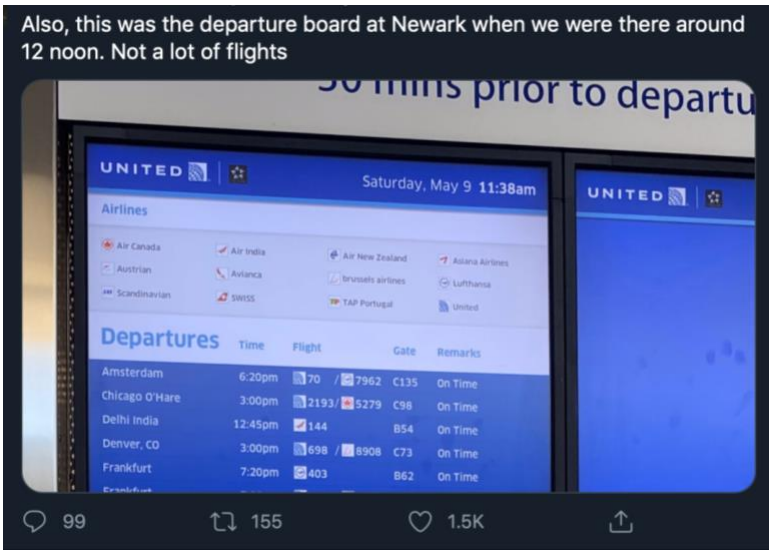


(@ethanjweiss, 2020)

(@ethanjweiss, 2020)

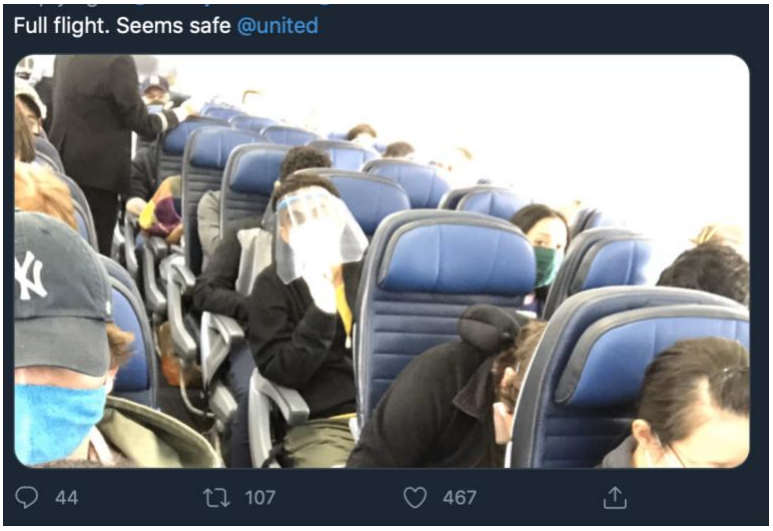
(@ethanjweiss, 2020)

(@ethanjweiss, 2020)

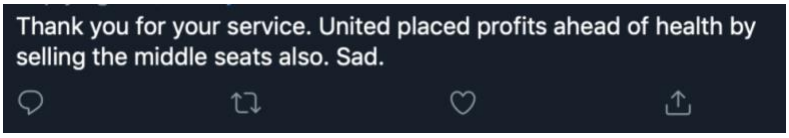


(@ethanjweiss, 2020)

Responses to @ethanjweiss, Critical of United



(@KotasMaya, 2020)



(@chanmett, 2020)

(@Patta47cake, 2020)

Responses to @ethanjweiss, Defensive of United

(@lattacrew1, 2020)

(@Alpenstrudel, 2020)

(@DeaconEdward, 2020)

Survey Methodology

Data-collection for this research utilizes a web-based software called Qualtrics as the platform for the survey. The survey establishes a pre-test base-line measure of key variables, exposes users to stimuli (Twitter discourse), and conduct a post-test to of the same key variables. The survey can be divided into the following portions: personal Twitter usage, perceptions of the information characteristics of Twitter, attitudes regarding the coronavirus, airline attitude baselines, retailer attitude baselines, United Airlines Twitter discourse, Costco Wholesale Twitter discourse, post-Twitter United Airlines attitude, post-Twitter Costco Wholesale attitude, and demographic information. The personal Twitter usage, perceptions of information

characteristics of Twitter, and attitudes in the context of the coronavirus portions of the survey are first in the flow of the survey, respectively. Then, the survey introduces baseline questions about airlines and retailers to establish a premeasure of key variables. Participants receive the retailer or airline block in random order with both being presented evenly. Within each block, participants answer the same questions about two companies, with the order in which the companies are asked about also being randomized, with elements being presented evenly. All participants answer the exact same questions about their perceptions of Delta Airlines, United Airlines, Walmart, and Costco. The data from questions about Delta Airlines and Walmart is not relevant to this research, as these questions are included so that the companies of focus are embedded, and participants are unable discern which companies are the focus of this study, to reduce any bias. Delta Airlines and Walmart were chosen as they are direct competitors, and similarly sized and well known to the companies of focus.

After baseline questions have been answered establishing premeasures for all companies, participants move on to the Twitter discourse and post-measure portions of the survey. The Twitter discourse and post-measure portions are put together in one block so that users will see tweets related to one company, answer intermittent questions gauging attitudes, and answer the post-measure questions about that company consecutively. All participants will be exposed to the Twitter discourse related to both Costco and United Airlines, though the order in which participants will be receiving the Costco vs. United groups first will be randomized, with elements being presented evenly. Participants will be shown a message reading, “You have been randomly selected to read tweets from users concerning one of the (retail organizations/airlines) you have previously answered questions about. The company you have been assigned is (Costco/United Airlines)”, with a short message summarizing the scenario. Following this

message, 5-7 tweets pulled from the case studies will then be shown for participants to read and respond to survey questions. The tweets included show the number of retweets, quote tweets, and likes while most, but not all, tweets include the time and date of when the tweet originated. None of the tweets include identifiable information of their respective authors as all profile pictures and usernames/handles have been cropped out. The tweets are separated in blocks based on whether they convey favorable or unfavorable sentiment towards the company of focus. The order in which tweets are supportive or opposed to the companies is presented to participants in random order, though evenly with all participants exposed to all possible blocks. The case of Costco randomly presents one supportive block and one opposition block. The case of United is different by nature, as all participants will read the redacted thread of tweets that are in opposition of, the company first as the initial opposing tweets give necessary context to the situation. Then, they will randomly be presented with either one block in support or one in opposition, followed by whichever they have not seen yet. Within all of these blocks of tweets, participants are asked three questions at the end of the block that measure brand attitude in order to isolate the effects of each block of each favorable or unfavorable set of tweets and allow for examination of order effects. After these blocks, participants then respond to the same set of questions they answered before, along with additional questions that examine perceptions of blame attribution and the firm's greed. The survey then concludes with demographic questions.

Survey Sample

The survey itself was originally intended to take place in The Ohio State University's Fisher College of Business's Marketing Research Lab, using Ohio State student volunteers as participants. Students are eligible to participate in the lab's studies if enrolled in a Principles of

Marketing course, predominately available to students enrolled as business majors or minors. Students in these courses receive the incentive of extra credit for their participation in studies. As the full extra credit is awarded for participation in several studies, we do not believe this incentive creates significant response bias. Due to COVID-19 safety measures at The Ohio State University, the Marketing Research Lab has been closed for the autumn semester of 2020, necessitating this study to be distributed to participants in remote locations, wherever participants resided, as opposed to a in a supervised lab setting. Determined exempt from Institutional Review Board review, the survey has been incorporated into class scheduled lab time on November 23rd through November 25th, and December 3rd through December 6th of 2020, distributed to 325 participants. Of these, 93.8% (305) were used for analysis as twenty responses were less than 20% complete and unusable. The demographic makeup of our sample is 172 (56.4%) participants were male, 133 (43.6%) were female, approximately the same ratio of students in the Fisher College of Business, so there is no gender bias. Participants were all enrolled college students of college-age. All but two participants recorded a birth year in the range of 1994 – 2002, with the outliers being born in 1987 and 2006, the latter of which could be attributed to error. In terms of race/ethnicity, 76.7% of participants identified as white, 18% identified as Asian, 6.9% identified as Black, 0.3% identified as American Indian or Alaska Native, 0% Hawaiian or Pacific Islander, and 2.3% identified as “other”. Also, 4.9% of participants identified as Spanish, Hispanic, or Latino. These ratios are also approximately representative of Fisher’s demographics.

Survey Variables of Interest

The key variables under investigation for United Airlines and Costco are brand awareness, brand associations, brand image, brand attitude, perceived quality, trust, loyalty, and purchase intention. Questions that measure brand awareness and brand associations, brand image, perceived quality, and brand loyalty represent indirect measures of customer-based brand equity, another variable of interest. These variables are measured consistently throughout the same fourteen questions in the pre- and post-measures portion of the survey. Pre-test measures are analyzed against post-test measures to investigate if significant differences exist after exposure to the Twitter content using t-tests. In the post-test, questions tied to the variables of blame attribution and perceptions of the firm's greed are also examined and means are compared between cases.

The initial question blocks of questions include the participant's personal Twitter usage, perceptions of information characteristics of Twitter, and attitudes in the context of the coronavirus. These questions measure variables of Twitter usage; information characteristics of Twitter (quantity, quality, and reliability); persuasiveness of tweets related to companies; mask usage before it was mandated; comfort associated with others wearing masks; comfort associated with air travel; experience and future plans for air travel; air travel comfort given masks; and air travel comfort given social distancing. We analyze correlations and regressions with these variables and changes between pre- and post-measure data of key variables. Many of these variables are important in consideration of the results, as people's opinions on some of these topics could be driving factors for change or lack of change in core pre- and post-test variables. The software platform of SPSS Statistics is used for the data analysis of these variables.

Survey Question Methodology

Individual question items have largely been sourced from existing literature. Refer to how individual question items flow into aggregated variables in Figures 1, 2, and 3. Questions pertaining to information characteristics of Twitter were sourced from Seo et al. (2020), which pertain to a related 2016 study from Erkan and Evans, only changing their wording of "airline social media" to "tweets pertaining to companies/brands/products." Two additional questions, original to this survey, related to persuasiveness were also added as Seo et al.'s study (2020) only includes quantity, reliability, and quality. Blame attribution and perceived greed questions were sourced from Grégoire et al. (2010), but questions were modified from being first-person to asking about the firm's customers. Demographic questions of age, sex, education level, current location, and race/heritage were sourced directly from the survey platform Qualtrics. Also, coronavirus-related questions were largely original, but inspired by a study done by the Federal Reserve Bank of Cleveland concerning mask-wearing behaviors and beliefs (Knotek et al., 2020). Looking at the key variables, items from multiple sources were compared and evaluated, chosen based on best fit for our experimental design. Three trust questions were sourced directly from Seo et al. (2020), related to a 2005 study by Delgado-Ballestar and Munuera-Alemán. Also, from Seo et al., brand image questions were adopted, related to a 2016 study by Godey, Manthiou, Perderzoli, Rokka, Aiello, Donvito, and Singh. Brand awareness and associations, perceived quality, and loyalty items were sourced from Yoo et al (2000). Lastly, purchase intention and brand attitude questions were sourced from Shivinski and Damborwski (2016) with brand attitude related to a 2000 work by Low and Lamb and a 2005 study from Villarejo-Ramos and Sánchez-Franco, and purchase intention related to a 2000 work by Yoo, Donthu, and Lee, as well as a 2011 work by Shukla.

Fig. 1.

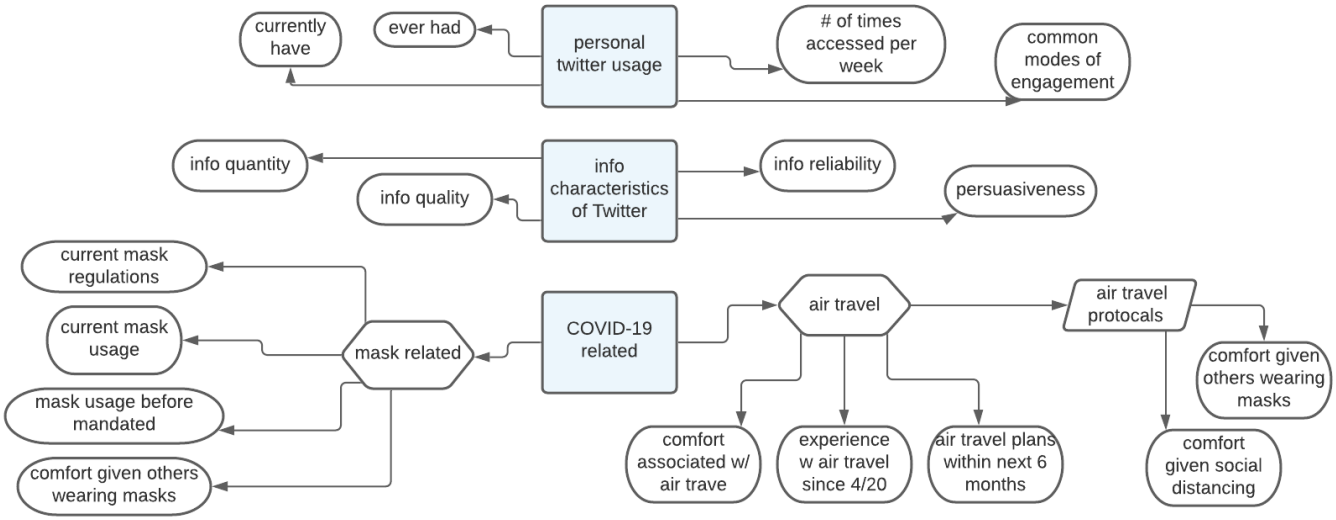

currently have
ever had
personal twitter usage
# of times accessed per week
common modes of engagement
info quantity
info quality
info characteristics of Twitter
info reliability
persuasiveness
current mask regulations
current mask usage
mask related
mask usage before mandated
comfort given others wearing masks
COVID-19 related
air travel
comfort associated w/ air trave
experience w air travel since 4/20
air travel plans within next 6 months
air travel protocals
comfort given others wearing masks
comfort given social distancing

Fig. 2.

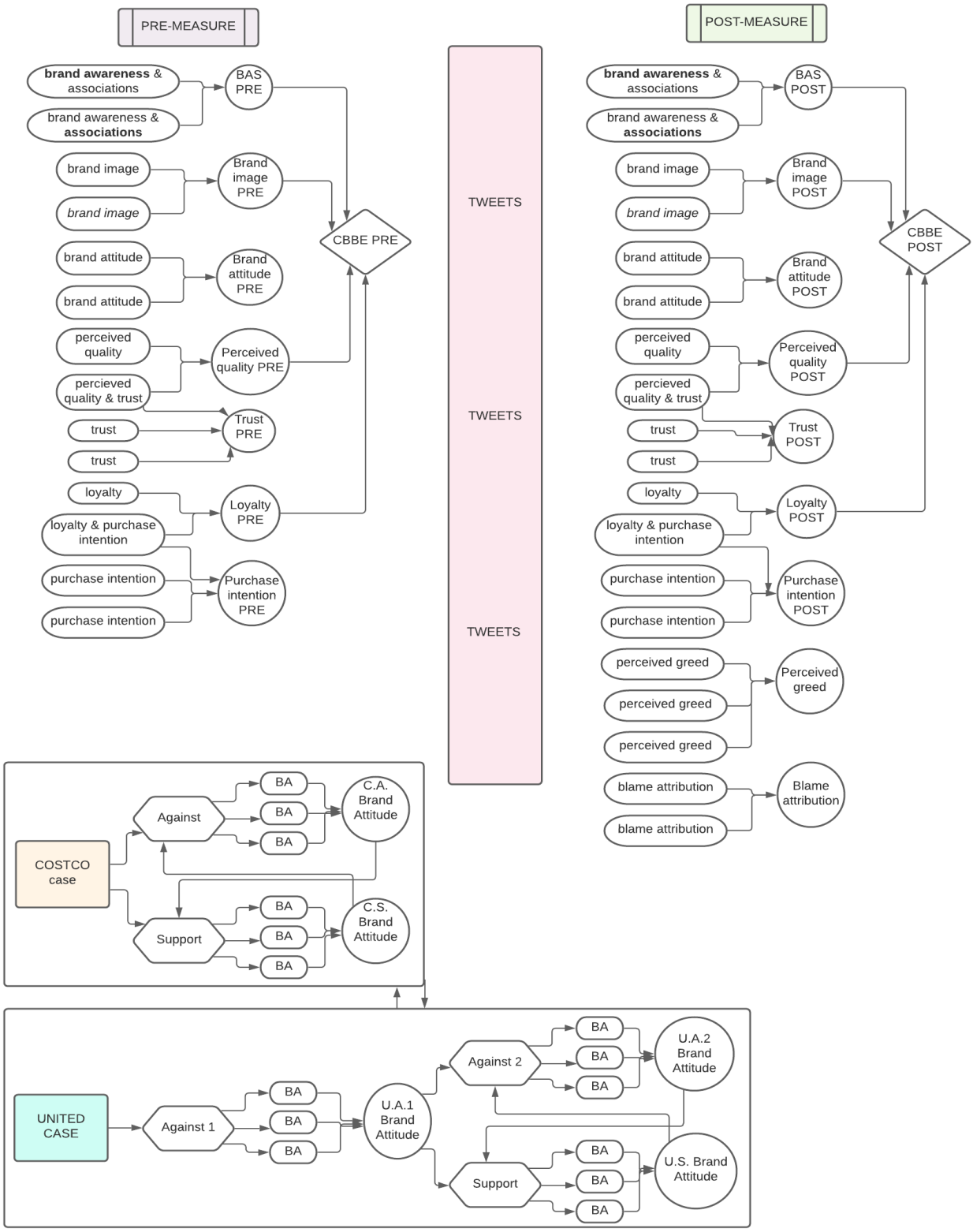
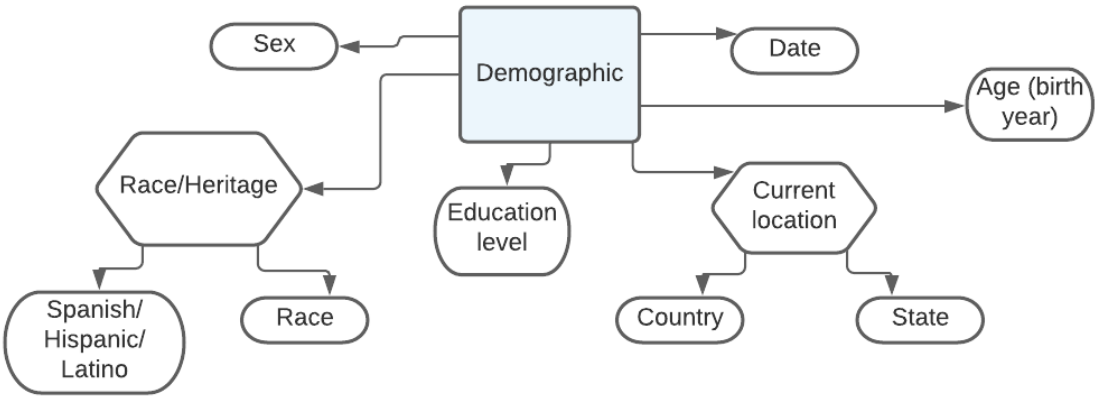

PRE-MEASURE
POST-MEASURE
brand awareness & associations
brand awareness & associations
BAS PRE
BAS POST
brand image
brand image
Brand image PRE
Brand image POST
brand attitude
brand attitude
Brand attitude PRE
Brand attitude POST
perceived quality
percieved quality & trust
Perceived quality PRE
Perceived quality POST
trust
trust
Trust PRE
Trust POST
loyalty
loyalty & purchase intention
Loyalty PRE
Loyalty POST
purchase intention
purchase intention
Purchase intention PRE
Purchase intention POST
perceived greed
Perceived greed
blame attribution
Blame attribution
CBBE PRE
CBBE POST
TWEETS
TWEETS
TWEETS
COSTCO case
Against
Support
BA
C.A. Brand Attitude
C.S. Brand Attitude
UNITED CASE
Against 1
Against 2
U.A.1 Brand Attitude
U.A.2 Brand Attitude
U.S. Brand Attitude

Fig. 3.



Hypotheses

- United (pre-measure vs. post-measure):

  H1A: Twitter discourse will not have a significant effect on brand awareness & associations

  H2A: Twitter discourse will have a significant negative effect on brand image

  H2B: Twitter discourse will have a significant negative effect on brand attitude

  H2C: Twitter discourse will have a significant negative effect on perceived quality

  H2D: Twitter discourse will have a significant negative effect on trust

  H2E: Twitter discourse will have a significant negative effect on loyalty

  H2F: Twitter discourse will have a significant negative effect on purchase intention

  H2G: Twitter discourse will have a significant negative effect on brand equity (brand equity dilution)

- Costco (pre-measure vs. post-measure):

  H1B: Twitter discourse will not have a significant effect on brand awareness & associations

  H3A: Twitter discourse will have a significant positive effect on brand image

  H3B: Twitter discourse will have a significant positive effect on brand attitude

H3C: Twitter discourse will have a significant positive effect on perceived quality

H3D: Twitter discourse will have a significant positive effect on trust

H3E: Twitter discourse will have a significant positive effect on loyalty

H3F: Twitter discourse will have a significant positive effect on purchase intention

H3G: Twitter discourse will have a significant positive effect on brand equity

- Blame Attribution and Perceived Greed

  H4: Higher blame attribution and perceived greed scores for United compared to those for Costco

- Intermittent Brand Attitude
  - United:
    - 3 tweets oppose (all participants exposed to this opposition first)

      H5A: Brand attitude scores will be lower after this set of opposition tweets than in the pretest measure

    - 2 oppose (random order)

      H5B: Brand attitude scores will be lower after this set than first set of opposition tweets
    - 2 support (random order)

      H5C: Brand attitude will be higher after supportive tweets than scores following the first set of opposition tweets

  - Costco:
    - 3 oppose (random order)

      H6A: Brand attitude scores will be lower after this set of opposition tweets than in the pretest measure
    - 2 support (random order)

      H6B: Brand attitude scores will be higher after this set than in pretest scores
  - Collective

H7: There will be a greater degree of attitude ambivalence (magnitude of differences in intermittent brand attitude measures) apparent for United case compared to Costco case

H8: The degree of influence that Twitter discourse has on key variables will be proportional to Twitter usage scores

- Information characteristics of Twitter (quantity, quality, reliability, persuasiveness)

H9A: The degree of influence that Twitter discourse has on key variables will be proportional to the informational quantity of Twitter

H9B: The degree of influence that Twitter discourse has on key variables will be proportional to the informational quality of scores of Twitter

H9C: The degree of influence that Twitter discourse has on key variables will be proportional to the informational reliability of the scores of Twitter

H9D: The degree of influence that Twitter discourse has on key variables will be proportional to the persuasiveness scores of Twitter

- Mask usage and comfort

H10A: The degree of influence that Twitter discourse has on Costco key variables will be proportional to mask usage before it was mandated scores

H10B: The degree of influence that Twitter discourse has on company key variables will be proportional to comfort associated with others wearing masks scores

- Experience with air travel, plans for air travel, and comfort with COVID safety protocols during air travel

H11A: The degree of influence that Twitter discourse has on United key variables will be inversely related to comfort associated with air travel scores

H11B: The degree of influence that Twitter discourse has on United key variables will be inversely related to experience with air travel scores

H11C: The degree of influence that Twitter discourse has on United key variables will be inversely related to future plans for air travel scores

H11D: The degree of influence that Twitter discourse has on company key variables will be proportional to comfort associated with mask-wearing during air travel scores

H11E: The degree of influence that Twitter discourse has on United key variables will be proportional to comfort with social distancing during air travel scores

Data Analysis and Empirical Results

Data Cleaning

The original raw data file transferred from Qualtrics into SPSS contained 325 data separate survey responses, with twenty incomplete responses eliminated, resulting in 305 valid survey responses used for data analysis. After eliminating these entries, to ensure complete data in our valid responses, frequency tables ran for all other questions yielded no more than three entries missing for any given questions. Further analysis showed that few participants had skipped over chunks of question, likely out of error, explaining these missing entries. In all subsequent test of hypotheses, SPSS excluded these missing entries from statistical analysis.

Computation of Variables

In order to measure the reliability, or internal consistency of the multiple-question, Likert scale, ordinal variables, Cronbach's alpha was calculated. This measure looks at how closely related the set of test items are, as a group, with a generally accepted value of Cronbach's alpha as greater than or equal to 0.7. For efficiency in calculations, pre-test core variables were calculated using the questions for all companies: United, Delta, Costco, and Walmart and post-test core variables were calculated using representative questions from both United and Costco. This test was also conducted for all measures of information characteristics of Twitter (quantity, quality, reliability, and persuasiveness), as well as for intermittent brand attitude measures which followed every block of tweets shown to participants. For all but a few Cronbach's alphas items, results were greater than 0.7, which provides strong evidence that the questions asked to serve as reliable measures of the aggregated variables. For post-test variables brand image, brand attitude, and perceived quality, scores were slightly lower than 0.7. Perceived greed and blame attribution

measures were also in the range of 0.5 – 0.6. In these cases, tests were re-ran to obtain Cronbach's alphas specific to United and Costco measures, as opposed to aggregate. All results but one variable were above 0.7, providing evidence of internal consistency in these measures as well. The post-test for brand image for Costco, at 0.692, was the only alpha not above the acceptable threshold, though the post-test for brand image for United was 0.815 and the pre-test test for brand image across all four companies was 0.707. As these all measure how related the same two question items are and the average of the three alphas is 0.738, we still have enough evidence of internal consistency for our brand attitude variable.

Given strong evidence of reliability, variables were then computed as means of their representative measures in accordance with Figure 2. All four companies in the pre-measure have seven pre-measure computed core variables (brand awareness & associations, brand image, brand attitude, perceived quality, trust, loyalty, and purchase intention) while Costco and United have the same computed post-measure core variables as well. The eighth key variable, customer-based brand equity, comprised of brand awareness & associations, brand image, perceived quality, and loyalty, has been calculated for pre- and post-test measures for both Costco and United using means of those four respective computed variables.

Hypothesis Testing: H1-H3

The analysis of differences between pre-test and post-test key variables measured before and after Twitter exposure is one of the most crucial aspects of this study's data analysis. Key variables include brand awareness and associations (BAS), brand image (BI), brand attitude (BA), perceived quality (PQ), trust (T), loyalty (L), purchase intention (PI), and customer-based brand equity (CBBE). This was done through the creation of eight new key variables for both

United and Costco by taking the difference between the post- and pre-test measures, representing the change in score for each participant. A positive value of the new variable indicates an increased score after Twitter exposure, while a negative value indicates a decreased score. With these variables, one-sample t-tests were conducted using a test value of 0 to determine if significant differences exist between the change variables and 0. Unfortunately, our data violates the assumptions that there should be no significant outliers and that the dependent variable should be approximately normally distributed. Most variables had between one and three outliers, though some had as little as zero and as many as five. For all sixteen key variables, Kolmogorov-Smirnov and Shapiro-Wilk tests of normality were conducted and in all cases for both tests, $p < .001$ indicates significant departure from normality. Despite violated assumptions, all results from the t-tests are validated by the nonparametric Wilcoxon signed rank tests and sign tests conducted for all post – pre variables. Assumptions were still violated for the signed rank test but not for the sign test. Results reinforced the conclusions drawn from the t-tests, which is our focus given the strong reinforcement and apparent robustness of the t-tests. The only conclusion that differed was that the sign test of Costco perceived quality elicited a statistically significant difference in median of post- vs. pre-measures, $p = .009$, while the respective t-test did not provide evidence to reinforce this.

Table 1: One-Sample T-tests: United Post – Pre

One-Sample Test

	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference Lower	Upper
UN_BAS_POSTminusPRE	1.246	302	.214	.05941	-.0344	.1532
UN_BRAND_IMAGE_POSTminusPRE	-3.773	302	.000	-.22442	-.3415	-.1074
UN_BRAND_ATTITUDE_POSTminusPRE	-11.523	302	.000	-.88779	-1.0394	-.7362
UN_PERC_QUALITY_POSTminusPRE	-11.836	302	.000	-.89769	-1.0469	-.7484
UN_TRUST_POSTminusPRE	-15.253	302	.000	-1.11551	-1.2594	-.9716
UN__LOYALTY_POSTminusPRE	-5.205	302	.000	-.33828	-.4662	-.2104
UN__PURCH_INTENT_POSTminusPRE	-8.387	301	.000	-.54194	-.6691	-.4148
UN__CBBE_POSTminusPRE	-8.060	302	.000	-.35025	-.4358	-.2647

Table 2: One-Sample T-tests: Costco Post – Pre

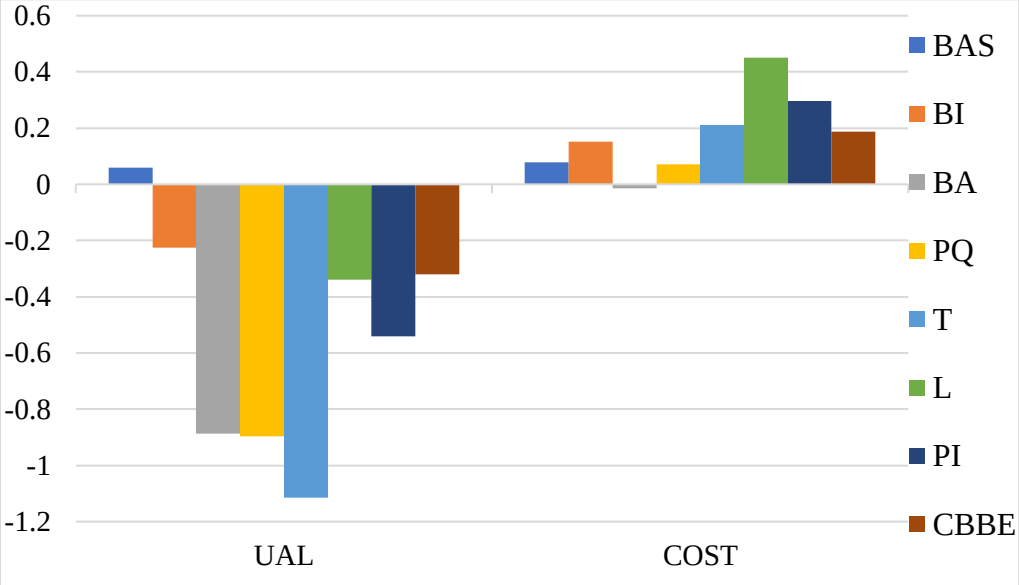
One-Sample Test

	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference Lower	Upper
CC__BAS_POSTminusPRE	2.186	303	.030	.07895	.0079	.1500
CC__BRAND_IMAGE_POSTminusPRE	3.575	303	.000	.15132	.0680	.2346
CC_BRAND_ATTITUDE_POSTminusPRE	-.302	303	.763	-.01480	-.1113	.0817
CC_PERC_QUALITY_POSTminusPRE	1.528	303	.127	.07072	-.0203	.1618
CC_TRUST_POSTminusPRE	4.645	303	.000	.21053	.1213	.2997
CC_LOYALTY_POSTminusPRE	7.734	303	.000	.45066	.3360	.5653
CC_PURCH_INTENT_POSTminusPRE	5.873	303	.000	.29605	.1969	.3953
CC__CBBE_POSTminusPRE	5.582	303	.000	.18791	.1217	.2542

H1 was supported in terms of Costco but rejected in terms of United as evidence supports BAS increasing given Twitter exposure. H2 expected Twitter dialogue to elicit a significant negative effect on all differences in United pre- and post-measures for the rest of the key

variables and is fully supported. The most drastic effect is exemplified by the trust variable, as the mean difference in post- and pre-measures was -1.116, with the next greatest declines in perceived quality and brand attitude. H3 anticipated significant positive change in Costco variables given exposure to tweets. Evidence supports most aspects of H3 except for H3B and H3C, as change between post- and pre-scores for Costco brand attitude and perceived quality were not significantly different from 0. In fact, the mean difference for brand attitude was -0.15. Also noteworthy is loyalty exhibiting the greates degree of change, higher than 0 by 0.451.

Figure 4: Difference Between Post and Pre Key Variables



Hypothesis Testing: H4

This hypothesis anticipates higher blame attribution and perceived greed scores for United compared to Costco, variables that are only present in the post-test as they are heavily reliant on the context within the tweets. These variables were analyzed using paired t-tests between United and Costco. We have evidence to support H4 as there is statistically significant

mean difference of 2.731 between United's and Costco's perceived greed variables $t(302) = 21.633$, $p < .001$, as well as a statistically significant mean difference of 1.987 between United's and Costco's blame attribution variables $t(302) = 16.376$, $p < .001$.

Hypothesis Testing: H5 – H7

These hypotheses focus on the intermittent brand attitude (BA) measures taken after different blocks of tweet exposure and seeing how they differ from one another, and from pre-test measures. All hypotheses hold true, though some only marginally. For premeasures, United BA had a mean of 4.584 while Costco had a mean of 5.908. For United, mean BA following the opposition tweets shown first to all participants was less than pre-test scores by 1.167 (H5A), scores following the second set of opposition tweets were lower than the first set by approximately 0.20 (H5B), and BA following support for was .09 higher than BA following the first set of opposition (H5C). For Costco, mean BA following opposition tweets was only about .04 lower than pre-test scores (H6A) and BA following the supportive tweets was only about .04 higher than the pre-test measures (H6B). Aside from the initial drastic drop in attitude given the first opposition tweets to United, attitude only moved marginally on average between subsequent supportive vs. opposing tweets. However, these movements for United were larger relative to Costco movement between support/opposition, pointing to the United tweets moving attitudes more so than those pertaining to Costco and providing support for H7.

Hypothesis Testing: H8

The variable measuring the number of times participants accessed Twitter per week had to be discarded as it was open-ended in format and responses could not be analyzed. However,

related to Twitter usage, data was collected on two binary variables measuring if participants have ever had a Twitter account, and if they currently have a Twitter account. Independent samples t-tests were run to determine if change in key United and Costco variables differed in terms of having a Twitter account in the past or at the time of taking the study. Although the assumption of normality for dependent variables is slightly violated, other assumptions were upheld, and both sets of tests were ran assuming homogeneity of variance. Interestingly, the ever-had variable yielded no significant results while the currently-have variable had several. There were significant differences for United and Costco BAS, as well as Costco brand image, perceived quality, loyalty, and CBBE in terms of currently having a Twitter vs. not having a Twitter. For all but one of these, key variables for participants who currently have Twitter accounts increased following exposure to tweets, while they decreased for those who do not have Twitter accounts. For the variable in which this was not the case, Costco loyalty, scores increased in both cases and much higher for those that have Twitter accounts compared to those that do not, as this variable had the greatest mean difference between groups.

Hypothesis Testing: H9

This set of hypotheses is centered upon the relationship between the degree of influence that Twitter had on participant's attitudes (difference in post- and pre-measures) and the variables representing information characteristics of Twitter. Multiple linear regression tests were ran to analyze the hypotheses of linear relationships between scores in terms of the quantity, quality, persuasiveness, and reliability of information found on Twitter (independent variables, and how much exposure to tweets changed participants' opinions (dependent variables). Unfortunately, assumptions were violated for this set of data. There was slight evidence of United negative linear relationships and very slight positive linear relationship was

hardly observable with the Costco cases. Normality varied with portions data approximately normally distributed and portions showing significant deviations, while data tended to show signs of heteroskedasticity. Acknowledging that results may be partially invalidated by departures from assumptions, significant predictions were found for differences in only United variables, with significant predictions mostly from information quality, then persuasion, then quantity (see Table 3). Importantly, information quality significantly predicted change in four different United variables. Also important is that all but one significant predictor yielded a negative beta, indicating inverse relationship, providing evidence to reject H9A, H9B, and H9D, while no evidence support a significant relationship involving reliability, H9C. Given violations of assumptions, only moderate evidence is present regarding these conclusions.

Table 3: Multiple Linear Regression: Information Characteristics of Twitter

Dependent Variable	**R Square (adj.)**	**Model DF, F, Significance**	**Significant Predictor(s)**	**Beta, Sig.**	
United Brand Attitude	0.61 (.048)	F(4, 298) = 4.388 p = .001	Info Quality	-.290	.002
United Perceived Quality	.093 (.081)	F(4, 298) = 7.630 p < .001	Info Quality Persuasion	-.332 -.189	<.001 .009
United Trust	.141 (.130)	F(4, 298) = 12.256 p < .001	Info Quality Persuasion	-4.441 -3.699	< .001 <. 001
United Loyalty	.034 (.021)	F(4, 298) = 2.631 p = .035	Info Quantity Persuasion	-2.260 2.075	.025 .039
United CBBE	.051 (.038)	F(4, 298) = 3.996 P = .004	Info Quality	-.151	.005

Hypothesis Testing: H10 – H11

This group of hypotheses also focuses on the relationship between a set of measures and change attitudes about Costco and United given Twitter exposure also using multiple linear

regression. Here, we analyze attitudes and comforts related to the coronavirus and precautionary measures to help prevent the spread of it. While there is still evidence of violation of assumptions, these models did a much better job of approximately upholding assumptions when compared to our information characteristics of Twitter models. Evidence of slight linear relationships was observed, while data appeared approximately homoscedastic and normal with some deviation present. While there are apparent violations in assumptions, we can put more confidence in these models compared to information characteristics models. All COVID-related variables included in data collection are mask usage before mandated (MUBM), store comfort given others wearing masks (SC), comfort associated with air travel (CAT), experience with air travel since April (EAT), air travel plans in next 6 months (PAT), air travel comfort given others wearing masks (ATCM), and air travel comfort given social distancing (ATCSD). In accordance with H10-11, United's models use all variables while Costco's models only include mask usage before mandated (MUBM), store comfort given others wearing masks (SC), and air travel comfort given masks (ATCM), leaving out social distancing variables due to the chief focus of this case being support/opposition for mask usage.

Results from Costco's models yielded interesting results (see Table 4). There was statistically significant evidence that the model predicted change in brand attitude, trust, loyalty, purchase intention, and customer-based brand equity. For each of these cases, only one out of three proposed independent variables, store comfort given others wearing masks (SC), yielded evidence of being a statically significant predictor. Positive beta coefficients confirm a linear relationship with SC and change given Twitter exposure for brand attitude, trust, loyalty, purchase intention, and customer-based brand equity, supporting the Costco portion of H10B. Since we only have statically significant evidence of SC as a predictor, there is no support for

significant relationship regarding mask usage before mandated (MUBM) (H10A), nor air travel comfort given masks (ATCM) (Costco portion of H11D).

Table 4: Multiple Linear Regression: COVID-Related Attitudes: Costco Model

Dependent Variable	**R Square (adj.)**	**Model DF, F, Significance**	**Significant Predictor(s)**	**Beta, Sig.**	
Costco Brand Attitude	0.29 (.019)	F(3, 299) = 2.141 p = .032	SC	.099	.020
Costco Trust	.041 (.031)	F(3, 299) = 4.269 p = .006	SC	.119	.001
Costco Loyalty	.039 (.030)	F(3, 299) = 4.079 p = .007	SC	.142	.003
Costco Purchase Intention	.039 (.030)	F(3, 299) = 4.097 p = .007	SC	.123	.003
Costco CBBE	.034 (.024)	F(3, 299) = 3.483 P = .016	SC	.075	.020

Looking at regressions for United (see Table 5), all models ran for the seven post – pre core variables yielded statistically significant results. The model for change in United loyalty scores was the least significant with no single significant predictors. Aside from loyalty and brand image, all other models were highly significant with $p < .001$. It is noteworthy that for Perceived quality observed the highest R^2, or proportion of variance in United post – pre perceived quality accounted for by the predicted values. Out of the six models with significant predictors, store comfort given others wearing masks (SC) was a statistically significant predictor with a negative beta for all, indicating an inverse relationship. This provides strong support for an inverse relationship for United, which is the opposite of what H10B predicted. Thus, H10B is rejected for United, though supported for Costco. Furthermore, experience with air travel since April of 2020 (EAT) was a significant predictor, contributing negatively for three United post – pre scores, providing support for H11B. On the other hand, plans for air travel

within the coming six months (PAT) was a significant predictor, contributing positively for two variables, providing evidence to reject H11C. Lastly, air travel comfort given social distancing (ATCSD) was a significant predictor, contributing positively to two variables, supporting H11E. These models rejected H11A and H11D, not providing evidence of relationships between change in key United variables and comfort associated with air travel (CAT), nor air travel comfort given masks (ATCM).

Table 5: Multiple Linear Regression: COVID-Related Attitudes: United Model

Dependent Variable	**R Square (adj.)**	**Model DF, F, Significance**	**Significant Predictor(s)**	**Beta, Sig.**	
United Brand Image	.057 (.035)	F(7, 293) = 4.538 p = .015	SC EAT	-.165 -.059	.002 .021
United Brand Attitude	.120 (.099)	F(7, 293) = 5.706 p < .001	SC EAT PAT	-.215 -.066 .091	.002 .041 .018
United Perceived Quality	.137 (.116)	F(7, 293) = 6.635 p < .001	SC PAT ATCSD	-.153 .108 .154	.020 .004 .005
United Trust	.092 (.071)	F(7, 293) = 4.266 p < .001	SC PAT ATCSD	-.130 .103 .109	.045 .006 .042
United Loyalty	.053 (.030)	F(7, 293) = 2.334 p = .025	n/a		
United Purchase Intention	.111 (.090)	F(7, 293) = 5.223 p < .001	SC	-.141	.013
United CBBE	.089 (.067)	F(7, 293) = 4.077 P < .001	SC EAT	-.115 -.042	.003 .022

Table 6: Hypotheses H1-H3

For United, Twitter discourse will not affect:	H1A: Brand awareness and associations	Rejected
For Costco, Twitter discourse will not affect:	H1B: Brand awareness and associations	Supported
For United, Twitter discourse will negatively affect:	H2A: Brand image	Supported
	H2B: Brand attitude	Supported
	H2C: Perceived quality	Supported
	H2D: Trust	Supported
	H2E: Loyalty	Supported
	H2F: Purchase intention	Supported
	H2G: Brand equity	Supported
For Costco, Twitter discourse will positively affect:	H3A: Brand image	Supported
	H3B: Brand attitude	Rejected
	H3C: Perceived quality	Rejected
	H3D: Trust	Supported
	H3E: Loyalty	Supported
	H3F: Purchase intention	Supported
	H3G: Brand equity	Supported
Higher scores for United than Costco in terms of:	H4: Blame attribution and perceived greed	Supported
United intermittent brand attitude:	H5A: Lower after mandatory first set of opposition tweets than in pre-test measure	Supported
	H5B: Lower after second set of opposition tweets than first set of opposition tweets	Supported
	H5C: Higher after supportive set of tweets than first set of opposition tweets	Supported
Costco intermittent brand attitude:	H6A: Lower after set of opposition tweets than in pre-test measure	Supported
	H6B: Higher after supportive set of tweets than in pre-test measure	Supported
Higher degree evident for United than Costco in terms of:	H7: Attitude ambivalence (degree of change between intermittent brand attitude measures)	Supported
The degree of influence that Twitter discourse will have on company key variables will be proportional to:	H8: Twitter usage scores	Partially supported and rejected

The degree of influence that Twitter discourse will have on company key variables will be proportional to:	H9A: Informational quantity of Twitter	Rejected
	H9B: Informational quality of Twitter	Rejected
	H9C: Informational reliability of Twitter	Rejected
	H9D: Persuasiveness of Twitter	Rejected
The degree of influence that Twitter discourse will have on Costco key variables will be proportional to:	H10A: Mask usage before it was mandated scores	Rejected
The degree of influence that Twitter discourse will have on company key variables will be proportional to:	H10B: Comfort associated with others wearing masks scores	United: Rejected Costco: Supported
The degree of influence that Twitter discourse will have on United key variables will be inversely related to:	H11A: Comfort associated with air travel scores	Rejected
	H11B: Experience with air travel scores	Supported
	H11C: Future plans for air travel scores	Rejected
The degree of influence that Twitter discourse will have on company key variables will be proportional to:	H11D: Mask-wearing during air travel scores	United: Rejected Costco: Rejected
The degree of influence that Twitter discourse will have on United key variables will be proportional to:	H11E: Social distancing during air travel scores	Supported

Additional Empirical Results: Loyalty

As research has investigated the relationship between loyalty to companies and exposure to negative information or crises regarding those companies, it is worthwhile to investigate if a relationship between loyalty and a change in key variables towards companies after reviewing given tweets exists in the present study. As such, simple linear regression models were built for key United and Costco variables, excluding BAS, with the only predictor variable being the respective company's pre-measure of loyalty. Linear relationships were observed, residuals were approximately normal for the most part, was approximately homoscedastic. All in all, we can put confidence in the validity of our findings given assumptions. Changes in purchase intention and

CBBE were significant in models for both companies, though this could be due to the loyalty variable comprising CBBE and being very similar to measurements of purchase intention. In all significant cases, negative betas across the board indicate an inverse relationship between pre-measures of loyalty and United and Costco change in purchase intention and CBBE, as well as Costco change brand image, perceived quality, and trust (see Tables 7 and 8).

Table 7: Simple Linear Regression: Loyalty and United

Dependent Variable	**R Square (adj.)**	**Model DF, F, Significance**	**Beta, Sig.**	
United Purchase Intention	.051 (.0480)	F(1,300) = 16.220 p = .025	-.150	<.001
United CBBE	.031 (.027)	F(1,301) = -3.082 P = .002	-.078	.002

Table 8: Simple Linear Regression: Loyalty and Costco

Dependent Variable	**R Square (adj.)**	**Model DF, F, Significance**	**Beta, Sig.**	
Costco Brand Image	0.46 (.043)	F(1, 302) = 14.711 p < .001	-.087	<.001
Costco Perceived Quality	.023 (.019)	F(1,302) = 6.977 p = .009	-.066	.009
Costco Trust	.034 (.030)	F(1,302) = 10.476 p = .001	-.079	.001
Costco Purchase Intention	.034 (.030)	F(1,302) = 45.457 p = .007	-.174	< .001
Costco CBBE	.110 (.128)	F(1, 302) = 37.472 P < .001	-.107	< .001

Additional Empirical Results: Order Effects

This research randomizes the order in which participants are shown tweets of positive and negative sentiment towards companies, allowing for greater confidence in results,

eliminating order bias, but also allowing for the analysis of effects of positive vs. negative content. In United's case, there were three total blocks, with an against block being shown to all participants first, followed by a randomized one support and one against block. For Costco, there was one block of each supportive and opposing sentiment displayed randomly. All of these blocks contain tweets and three brand attitude questions, averaged into aggregate variables. These variables were used in independent samples t-tests, assuming equal variance given evidence with the grouping variable as the order shown. Distributions were approximately normal, with the robustness of test supporting deviations and allowing for confidence in results. In the case of the United support block, there was a significant effect for order, as those receiving the support block first reported higher brand attitude scores than those that received it second by mean difference of approximately 0.46. This was the only significant difference found based on order though. In the case of support for Costco, there was not any difference to be found with both groups reporting the same means. Thus, it is interesting that there was only a significant regarding tweets showing support for United. It is also intriguing as this case is one in which support was shown after already seeing negative sentiment towards the company, but the difference was only significant for United and not for the similar situation for Costco.

Conclusions

The core conclusion of our analysis is that eWOM in the form of tweets pertaining to the policies and actions of companies in the context of COVID-19 significantly affected consumers' attitudes about the organizations. Our cases of United and Costco were rather different. In the case of United, tweets surrounded a customer's experience on a crowded airplane after they had been informed by the company that capacity would be reduced with middle seats blocked to create more distance amongst passengers. In Costco's case, the company faced backlash and a trending twitter topic calling for a boycott following their decision to mandate masks in all their stores to help prevent the spread of the virus, a decision that came relatively earlier than most mask mandates for similar companies. These cases captured different sides of the attitudes about COVID-related precautions taken by companies, with people being largely alarmed at United's lack of precaution, or lack of commitment to their previously stated precautionary policy, and others being upset or opposed to the early adoption of precautionary measures made by Costco. This research uses a survey containing tweets that cover both sides of these cases, exposing participants evenly to differing viewpoints in both cases. It was hypothesized that the exposure to United's case would negatively affect the way participants view the company, while the Costco case would positively affect participants' views, mostly due to the fact that at a later stage in the pandemic, precautionary measures, like blocking the middle seat on flights or wearing masks inside a store, became commonplace, if not the expectation by consumers.

These hypotheses largely hold true, and results effectively capture the differences in the cases, which speaks to the expectations consumers hold for how companies should behave in light of a pandemic. Overall, the highest degree of change was in variables before and after Twitter exposure for United Airlines. Trust was the most effected, followed by perceived quality

and brand attitude. The difference seen in customer-based brand equity reinforces past literature supportive of the notion of negative eWOM spurs brand equity dilution (Schivinski & Dabrowski, 2016). On the other side, tweets presented regarding Costco spurred significantly positive changes in loyalty, brand image, trust, purchase intention, and CBBE, with the highest degree of change in loyalty. No significant changes were seen in regard to perceived quality and brand attitude, with the latter actually decreasing marginally. Also, there was significant change in brand awareness for Costco but not United, which partially aligns with past findings of WOM having an effect on brand awareness (Seo et al., 2020). We are able to conclude with confidence that the situation surrounding United presented in the form of tweets had a greater impact on consumers' attitudes than that of Costco, with attitudes significantly decreasing for United but mostly increasing although to a smaller degree for Costco. Accordingly, in reaction to the Twitter discourse, consumers associated significantly higher perceptions of blame attribution and perceived greed with United than with Costco. Also important is how changes between positive and negative blocks of tweets impacted brand attitude perceptions. While the highest degree of change came from a substantial drop in attitude after the first set of United tweets critical of the company, other movements in attitude were marginal but still of greater magnitude for United compared to Costco, signaling greater overall movements in opinion and more attitude ambivalence of consumers being pulled in opposing directions. As these two cases had different experimental designs however, we cannot put full faith in this conclusion.

Even though we think about Twitter dialogue shown to the participants as the key driver of the observable changes in attitude and see how this transforms over the course of exposure to varying sentiments, we also heavily examine the relationship between other variables and the degree of change in attitude. We found that mean scores of changes differed significantly in

terms of current possession of a Twitter account, but not in terms of ever having had a Twitter account. Regarding how consumers perceive the information found about companies on social media, perceptions of quality, then persuasion, then quantity were found to be statistically significant predictors for change in trust, then perceived quality, then brand attitude, then CBBE, then loyalty, only for United. It makes sense that these predictors are only significant for United, as there is less magnitude of change able to be predicted for Costco. For all but one of these significant cases though, an inverse relationship with change in attitudinal variables is seen. Thus, the more quality and persuasive consumers perceive tweets about companies to be, the less their attitudes towards companies are affected by the exposure. This was not the expectation and does not align with literature pointing to higher perception of the information characteristics of Twitter (quantity, quality, and reliability) being related to a more active role of eWOM (Seo et al., 2020). We must consider though that these statistical tests did not entirely or in some cases approximately meet assumptions, potentially affecting validity of results.

Similarly, models investigating the relationship between observed attitude changes and variables looking at comforts and precautionary measures related to the coronavirus. In Costco's models, evidence supported store comfort given others wearing masks (SC) as a significant predictor for three different variables, with a positive coefficient pointing to a linear relationship in that case. As anticipated, the more comfortable these consumers felt when others wore masks around them in a store, the higher degree of change was seen across six of our key variables after Twitter exposure. Our United model was more complex with additional independent variables related to flying considered. In this case, an inverse relationship was observed between SC and change in six United variables, going against the conclusion found in the Costco models. Thus, our strongest relationship between change was found with this variable, but with higher SC

predicting higher degree of change for Costco, but lower degree of change for United. Furthermore, we see evidence supporting another inverse relationship, with higher experience with air travel scores predicting lower degree of change in brand image, brand attitude, and CBBE for United, aligning with expectations. Contradicting this however, a linear relationship was evident between future plans for air travel, as well as air travel comfort given social distancing, with high scores for both predicting high degree of change in United trust and brand attitude or perceived quality, respectively. It was also surprising that there was no supportive evidence of a relationship between change in key United variables and comfort associated with air travel, nor air travel comfort given masks. Again though, we must note that these test results do not carry full confidence given deviations from assumptions.

Lastly, we looked at changes relative to pre-measures of loyalty, concluding that it was a significant predictor for purchase intention and CBBE for both Costco and United, as well as for Costco brand image, perceived quality, and trust. Also, for both, beta coefficients were negative, signifying an inverse relationship with change in scores. Thus, for our companies of focus, the more loyal consumers were originally, the less the Twitter exposure swayed different aspects of their attitude about the companies.

Limitations and Future Research

A key limitation to this research is that it only takes two case studies into consideration. Furthermore, data collected less than a month after cases gained popularity would have been a more genuine look into how this affected participants' attitudes in the context of the coronavirus and related expectations from organizations at that time, as opposed to after the passage of months. The most important limitation is that the sample size was only gathered from college students, with representation mostly of American students and no representation from individuals from older age groups. It is important to acknowledge that results could be very different if this study investigated attitudes of older individuals, as they are likely more concerned about getting COVID, and Twitter is generally better known to younger demographics. It is recommended that this researched be replicated with a sample size more reflective of diversity of demographic in terms of age group and education. This research provides a glimpse into how consumers change their attitudes towards corporations, though there is still immense potential to expand on this study. There is plenty more to be explored in regard to how consumers feel about company's actions related to the coronavirus, or what their specific expectations are. It could be interesting to focus on either positive or negative discourse only, look at eWOM on other platforms, or investigate relationships with other variables, such as personality traits or corporate reputation. I explored cases that focus on treatment and protection of workers related to COVID, as well as cases with less well-known companies which could be interesting when used in a similar format as this research.

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Appendix

Survey Content

Analyzing the Effects of eWOM on Twitter in the Context of COVID-19

Start of Block: Informed Consent

Q1 **The Ohio State University Consent to Participate in Research Study Title: Analyzing the Effects of eWOM on Twitter in the Context of COVID-19**

Researchers: Dr. Curtis Haugtvedt, Amanda Kall This is a consent form for research participation. It contains important information about this study and what to expect if you decide to participate. **Your participation is voluntary.** Please consider the information carefully. Feel free to ask questions before making your decision whether or not to participate.

Purpose: This research examines electronic word of mouth communication published by users on Twitter that pertains to the responses, behaviors, or policies of organizations related to the coronavirus pandemic, specifically investigating whether or not such content influences the attitudes of consumers. Through this investigation, we will ascertain if exposure to curated tweets has a significant effect on consumer-based brand equity and various dimensions of individual sentiment towards companies. This research also seeks to analyze whether or not consumers' personal Twitter usage, attitudes about coronavirus precautions or comfort, and perceptions of the information characteristics of Twitter have any influence on various dimensions of individual sentiment towards companies. **Procedures/Tasks:** You will be tasked with answering questions based on your personal attitudes and opinions on a variety of matters. There are no right or wrong answers; only your personal opinions matter. **Duration:** 20 minutes You may leave the study at any time. If you decide to stop participating in the study, there will be no penalty to you, and you will not lose any benefits to which you are otherwise entitled. Your decision will not affect your future relationship with The Ohio State University.

Risks and Benefits:

No major risks, harms, and/or discomforts that could be applied to or result from this research are anticipated to be probable or likely. There is no deception or manipulation involved, or potential for physical/mental risk or harm in any manner. There are no benefits provided to participants in Dr. Haugtvedt's Consumer Behavior course who are taking this survey. For students participating in virtual marketing research lab studies, it is my understanding that they are still offered a small amount of extra credit (0.5 points in my personal experience) per study they participate in. All in all, participants will receive no or slight benefits in return for their exposure to no risk as a part of this survey. **Confidentiality:** We will work to make sure that no one sees your online responses without approval. But, because we are using the Internet, there is a chance that someone could access your online responses without permission. In some cases, this information could be used to identify you. Also, there may be circumstances where this information must be released. For example, personal information regarding your participation in this study may be disclosed if required by state law. Also, your records may be reviewed by the following groups (as applicable to the research): · Office for Human Research Protections or other federal, state, or international regulatory agencies; · The Ohio State University Institutional Review Board or Office of Responsible Research Practices; · The sponsor, if any, or agency (including the Food and Drug Administration for FDA-regulated research) supporting the study. **Future Research:** Your de-identified information will not be used or shared with other researchers. **Incentives:** *For students participating in virtual marketing research lab studies, it is my understanding that they are still offered a small amount of extra credit (0.5 points in my personal experience) per study they participate in.* **Participant Rights:** You may refuse to participate in this study without penalty or loss of benefits to which you are otherwise entitled. If you are a student or employee at Ohio State, your decision will not affect your grades or employment status. If you choose to participate in the study, you may discontinue participation at any time without penalty or loss of benefits. By agreeing to participate, you do not give up any personal legal rights you may have as a participant in this study. This study has been determined Exempt from IRB review. **Contacts and Questions:** For questions, concerns, or complaints about the study you may contact Haugtvedt.1@osu.edu . For questions about your rights as a participant in this study or to discuss other study-related concerns or complaints with someone who is not part of the research team, you may contact the Office of Responsible Research Practices at 1-800-678-6251 or hsconcerns@osu.edu. **Providing consent** I have read (or someone has read to me) this page and I am aware that I am being asked to participate in a research study. I have had the opportunity to ask questions and have had them answered to my satisfaction. I voluntarily agree to participate in this study. I am not giving up any legal rights by agreeing to participate. To print or save a copy

of this page, select the print button on your web browser. **Please select "Yes" to proceed and participate in this study. If you do not wish to participate, please select "No" and close out your browser window.**

- ○ Yes (1)
- ○ No (2)

Skip To: End of Survey If The Ohio State University Consent to Participate in Research Study Title: Analyzing the Effects o... != Yes

End of Block: Informed Consent

Start of Block: Personal Twitter use

Q2 Have you ever had a Twitter account or accounts?

- ○ Yes (1)
- ○ No (2)

Q3 Do you currently have a Twitter account or accounts?

- ○ Yes (1)
- ○ No (2)

Q4 On an average week, how many times do you access Twitter?

_____

Q5 How do you most commonly engage on Twitter? (Select all that apply)

- ☐ I tweet (1)
- ☐ I quote tweets (2)
- ☐ I reply to tweets (3)
- ☐ I retweet tweets (4)
- ☐ I send tweets to others via direct message or other sharing methods (5)
- ☐ I like or favorite tweets (6)
- ☐ I read tweets (7)
- ☐ I do not use Twitter (8)

End of Block: Personal Twitter use

Start of Block: Information characteristics of Twitter usage (info quantity)

Q6 These statements gauge your opinions of user-generated content on Twitter, NOT content or advertisements directly from brands/companies themselves. Please indicate the extent to which you disagree or agree with the following statements.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neutral (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
Tweets pertaining to companies/brands/products have a high amount of information. (1)	○	○	○	○	○	○	○
Twitter has a high amount of information about companies/brands/products. (2)	○	○	○	○	○	○	○
Many people post much information about companies/brands/products on Twitter. (3)	○	○	○	○	○	○	○

End of Block: Information characteristics of Twitter usage (info quantity)

Start of Block: Information characteristics of Twitter usage (info reliability) & persuasiveness

Q7 These statements gauge your opinions of user-generated content on Twitter, NOT content or advertisements directly from brands/companies themselves. Please indicate the extent to which you disagree or agree with the following statements.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neutral (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
I think that the information in tweets pertaining to companies/brands/products is credible. (1)	○	○	○	○	○	○	○
I trust tweets pertaining to companies/brands/products provided by other consumers. (2)	○	○	○	○	○	○	○
I think that the information in tweets pertaining to companies/brands/products is accurate. (3)	○	○	○	○	○	○	○
I think that the information in tweets pertaining to companies/brands/products is influential. (4)	○	○	○	○	○	○	○
I think that tweets pertaining to companies/brands/products have the ability to affect other users' opinions on the companies/brands/products. (5)	○	○	○	○	○	○	○

End of Block: Information characteristics of Twitter usage (info reliability) & persuasiveness

Start of Block: Information characteristics of Twitter usage (info quality)

Q8 These statements gauge your opinions of user-generated content on Twitter, NOT content or advertisements directly from brands/companies themselves. Please indicate the extent to which you disagree or agree with the following statements.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neutral (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
I think that the information in tweets pertaining to companies/brands/products is easy to understand. (1)	○	○	○	○	○	○	○
I think that the information in tweets pertaining to companies/brands/products is clear. (2)	○	○	○	○	○	○	○
I think that the quality of information in tweets pertaining to companies/brands/products is excellent in general. (3)	○	○	○	○	○	○	○

End of Block: Information characteristics of Twitter usage (info quality)

Start of Block: Coronavirus-related

Q9 The following questions are in the context of the coronavirus, also known as COVID-19 or SARS-CoV-2, and the precautionary measures intended to help reduce the spread of the coronavirus.
Please indicate the extent to which you disagree or agree with the following statements.

	Strongly Disagree (1)	Disgree (2)	Somewhat Disagree (3)	Neutral (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
Where I currently reside, it is required for most adults to wear a mask/face covering in public spaces, such as grocery stores. (1)	○	○	○	○	○	○	○
I wore a mask/face covering the last time I went out to a public indoor space, such as a grocery store. (2)	○	○	○	○	○	○	○
When at a store, I feel more comfortable if those around me are wearing masks. (3)	○	○	○	○	○	○	○
I wore a mask in public indoor spaces public indoor spaces, such as a grocery store, before it was mandatory. (4)	○	○	○	○	○	○	○
I feel comfortable traveling by plane. (5)	○	○	○	○	○	○	○
I have traveled by plane between now and April 1st, 2020. (6)	○	○	○	○	○	○	○
I have plans within the 6 months to travel by plane. (7)	○	○	○	○	○	○	○
I feel comfortable traveling by plane if those around me are wearing masks. (8)	○	○	○	○	○	○	○

I feel comfortable traveling by plane if another individual is seated directly next to me. (9)	○	○	○	○	○	○	○

End of Block: Coronavirus-related

Start of Block: Airlines Pre-measure

Q10 The following questions are based on your perception of United Airlines. Please indicate the extent to which you disagree or agree with the following statements.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neutral (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
I am aware of United Airlines. (1)	○	○	○	○	○	○	○
Some characteristics of United Airlines, such as a symbol or logo, come to mind quickly. (2)	○	○	○	○	○	○	○
United Airlines is a leading company in their industry. (3)	○	○	○	○	○	○	○
I have an impressive experience of this company. (4)	○	○	○	○	○	○	○
United Airlines has a good reputation. (5)	○	○	○	○	○	○	○
I associate positive characteristics with United Airlines. (6)	○	○	○	○	○	○	○
The likely quality of United Airlines' service is extremely high. (7)	○	○	○	○	○	○	○
The likelihood that United Airlines is reliable is very high. (8)	○	○	○	○	○	○	○
I think that United Airlines does not hide the important information I need to know. (9)	○	○	○	○	○	○	○
I believe that United Airlines respects its promises. (10)	○	○	○	○	○	○	○

I consider myself to be loyal to United Airlines. (11)	○	○	○	○	○	○	○
United Airlines would be my first choice. (12)	○	○	○	○	○	○	○
I intend to fly United Airlines in the future. (13)	○	○	○	○	○	○	○
I am willing to recommend that others fly United Airlines. (14)	○	○	○	○	○	○	○

Page Break

Q12 The following questions are based on your perception of Delta Airlines. Please indicate the extent to which you disagree or agree with the following statements.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neutral (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
I am aware of Delta Airlines. (1)	○	○	○	○	○	○	○
Some characteristics of Delta Airlines, such as a symbol or logo, come to mind quickly. (2)	○	○	○	○	○	○	○
Delta Airlines is a leading company in their industry. (3)	○	○	○	○	○	○	○
I have an impressive experience of this company. (4)	○	○	○	○	○	○	○
Delta Airlines has a good reputation. (5)	○	○	○	○	○	○	○
I associate positive characteristics with Delta Airlines. (6)	○	○	○	○	○	○	○
The likely quality of Delta Airlines' service is extremely high. (7)	○	○	○	○	○	○	○
The likelihood that Delta Airlines is reliable is very high. (8)	○	○	○	○	○	○	○
I think that Delta Airlines does not hide the important information I need to know. (9)	○	○	○	○	○	○	○
I believe that Delta Airlines respects its promises. (10)	○	○	○	○	○	○	○
I consider myself to be loyal to Delta Airlines. (11)	○	○	○	○	○	○	○

Delta Airlines would be my first choice. (12)	○	○	○	○	○	○	○
I intend to fly Delta Airlines in the future. (13)	○	○	○	○	○	○	○
I am willing to recommend that others fly Delta Airlines. (14)	○	○	○	○	○	○	○

End of Block: Airlines Pre-measure

Start of Block: Retailers Pre-measure

Q13 The following questions are based on your perception of Costco Wholesale. Please indicate the extent to which you disagree or agree with the following statements.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neutral (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
I am aware of Costco. (1)	○	○	○	○	○	○	○
Some characteristics of Costco, such as a symbol or logo, come to mind quickly. (2)	○	○	○	○	○	○	○
Costco is a leading company in their industry. (3)	○	○	○	○	○	○	○
I have an impressive experience of this company. (4)	○	○	○	○	○	○	○
Costco has a good reputation. (5)	○	○	○	○	○	○	○
I associate positive characteristics with Costco. (6)	○	○	○	○	○	○	○
The likely quality of a shopping experience at Costco is extremely high. (7)	○	○	○	○	○	○	○
The likelihood that Costco is reliable is very high. (8)	○	○	○	○	○	○	○
I think that Costco does not hide the important information I need to know. (9)	○	○	○	○	○	○	○
I believe that Costco respects its promises. (10)	○	○	○	○	○	○	○
I consider myself to be loyal to Costco. (11)	○	○	○	○	○	○	○
Costco would be my first choice. (12)	○	○	○	○	○	○	○

I intend to shop at Costco in the future. (13)	○	○	○	○	○	○	○
I am willing to recommend that others shop at Costco. (14)	○	○	○	○	○	○	○

Page Break

Q15 The following questions are based on your perception of Walmart. Please indicate the extent to which you disagree or agree with the following statements.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neutral (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
I am aware of Walmart. (1)	○	○	○	○	○	○	○
Some characteristics of Walmart, such as a symbol or logo, come to mind quickly. (2)	○	○	○	○	○	○	○
Walmart is a leading company in their industry. (3)	○	○	○	○	○	○	○
I have an impressive experience of this company. (4)	○	○	○	○	○	○	○
Walmart has a good reputation. (5)	○	○	○	○	○	○	○
I associate positive characteristics with Walmart. (6)	○	○	○	○	○	○	○
The likely quality of a shopping experience at Walmart is extremely high. (7)	○	○	○	○	○	○	○
The likelihood that Walmart is reliable is very high. (8)	○	○	○	○	○	○	○
I think that Walmart does not hide the important information I need to know. (9)	○	○	○	○	○	○	○
I believe that Walmart respects its promises. (10)	○	○	○	○	○	○	○
I consider myself to be loyal to Walmart. (11)	○	○	○	○	○	○	○

Walmart would be my first choice. (12)	○	○	○	○	○	○	○
I intend to shop at Walmart in the future. (13)	○	○	○	○	○	○	○
I am willing to recommend that others shop at Walmart. (14)	○	○	○	○	○	○	○

Page Break

End of Block: Retailers Pre-measure

Start of Block: first united tweets

Q16 You have been randomly selected to read tweets from users related one of the airline organizations you have answered questions about. The company you have been assigned is United Airlines.

The first three tweets come from a thread of tweets from one user concerning their experience with a crowded airplane.

Q17

Q18

Q19

Q20 Given the previous three tweets, please indicate the extent to which you disagree or agree with the following statements.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neutral (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
I have a pleasant idea of United Airlines. (1)	○	○	○	○	○	○	○
United Airlines has a good reputation. (2)	○	○	○	○	○	○	○
I associate positive characteristics with United Airlines. (3)	○	○	○	○	○	○	○

Page Break

End of Block: first united tweets

Start of Block: united support

Q21 You have been randomly assigned to read tweets from users related to United Airlines. All of the following tweets are replies tweeted in response to the user's initial three tweets concerning their experience with a crowded airplane.

Q22

Q23

Q24 Given the previous two tweets, please indicate the extent to which you disagree or agree with the following statements.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neutral (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
I have a pleasant idea of United Airlines. (1)	○	○	○	○	○	○	○
United Airlines has a good reputation. (2)	○	○	○	○	○	○	○
I associate positive characteristics with United Airlines. (3)	○	○	○	○	○	○	○

End of Block: united support

Start of Block: united against

Q25 You have been randomly assigned to read tweets from users related to United Airlines. All of the following tweets are replies tweeted in response to the user's initial three tweets concerning their experience with a crowded airplane.

Q26

Q27

Q28 Given the previous two tweets, please indicate the extent to which you disagree or agree with the following statements.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neutral (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
I have a pleasant idea of United Airlines. (1)	○	○	○	○	○	○	○
United Airlines has a good reputation. (2)	○	○	○	○	○	○	○
I associate positive characteristics with United Airlines. (3)	○	○	○	○	○	○	○

End of Block: united against

Start of Block: united post-measure

Q29 The following questions are based on your perception of United Airlines after reading all of the tweets. Please indicate the extent to which you disagree or agree with the following statements.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neutral (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
I am aware of United Airlines. (1)	○	○	○	○	○	○	○
Some characteristics of United Airlines, such as a symbol or logo, come to mind quickly. (2)	○	○	○	○	○	○	○
United Airlines is a leading company in their industry. (3)	○	○	○	○	○	○	○
I have an impressive experience of this company. (4)	○	○	○	○	○	○	○
United Airlines has a good reputation. (5)	○	○	○	○	○	○	○
I associate positive characteristics with United Airlines. (6)	○	○	○	○	○	○	○
The likely quality of United Airlines' service is extremely high. (7)	○	○	○	○	○	○	○
The likelihood that United Airlines is reliable is very high. (8)	○	○	○	○	○	○	○
I think that United Airlines does not hide the important information I need to know. (9)	○	○	○	○	○	○	○
I believe that United Airlines respects its promises. (10)	○	○	○	○	○	○	○

I consider myself to be loyal to United Airlines. (11)	○	○	○	○	○	○	○
United Airlines would be my first choice. (12)	○	○	○	○	○	○	○
I intend to fly United Airlines in the future. (13)	○	○	○	○	○	○	○
I am willing to recommend that others fly United Airlines. (14)	○	○	○	○	○	○	○

Q30 Based on the crowded airplane and the responses of Twitter users seen in the tweet you read, please indicate the extent to which you believe United:

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	
Did not intend to take advantage of its customers	○	○	○	○	○	○	○	Intended to to take advantage of its customers
Had good intentions	○	○	○	○	○	○	○	Had bad intentions
Was primarily motivated by its customer's best interest	○	○	○	○	○	○	○	Was primarily motivated by its own best interest

Q31 Overall, do you believe that United Airlines was "definitely not" vs "totally" responsible for the responses of Twitter users seen in the tweets you read?

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	
Definitely not responsible	○	○	○	○	○	○	○	Totally responsible

Q32 To what extent do you blame United for the responses of Twitter users seen in the tweets you read?

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	
Not at all	○	○	○	○	○	○	○	Completely

End of Block: United post-measure

Start of Block: Costco support

Q33 You have been randomly selected to read tweets from users related to one of the retail organizations you have previously answered questions about. The company you have been assigned is Costco.

The following tweets are related to Costco's announcement of a new store policy on April 29th, 2020. In the statement, The company's CEO, Craig Jelinek, announced in a statement that, "To help protect our employees and members, effective May 4, 2020, all Costco members and guests must wear a face covering that covers the mouth and nose, at all times while at Costco."

Q34

Q35

Q36 Given the previous three tweets, please indicate the extent to which you disagree or agree with the following statements.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neutral (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
I have a pleasant idea of Costco. (1)	○	○	○	○	○	○	○
Costco has a good reputation. (2)	○	○	○	○	○	○	○
I associate positive characteristics with Costco. (3)	○	○	○	○	○	○	○

End of Block: Costco support

Start of Block: Costco against

Q37
You have been randomly selected to read tweets from users related to one of the retail organizations you have previously answered questions about. The company you have been assigned is Costco.

The following tweets are related to Costco's announcement of a new store policy on April 29th, 2020. In the statement, The company's CEO, Craig Jelinek, announced in a statement that, "To help protect our employees and members, effective May 4, 2020, all Costco members and guests must wear a face covering that covers the mouth and nose, at all times while at Costco."

Q38

Q39

Q40

Q41 Given the previous three tweets, please indicate the extent to which you disagree or agree with the following statements.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neutral (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
I have a pleasant idea of Costco. (1)	○	○	○	○	○	○	○
Costco has a good reputation. (2)	○	○	○	○	○	○	○
I associate positive characteristics with Costco. (3)	○	○	○	○	○	○	○

End of Block: costco against

Start of Block: costco post-measure

Q42 The following questions are based on your perception of Costco Wholesale after reading all of the tweets. Please indicate the extent to which you disagree or agree with the following statements.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neutral (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
I am aware of Costco. (1)	○	○	○	○	○	○	○
Some characteristics of Costco, such as a symbol or logo, come to mind quickly. (2)	○	○	○	○	○	○	○
Costco is a leading company in their industry. (3)	○	○	○	○	○	○	○
I have an impressive experience of this company. (4)	○	○	○	○	○	○	○
Costco has a good reputation. (5)	○	○	○	○	○	○	○
I associate positive characteristics with Costco. (6)	○	○	○	○	○	○	○
The likely quality of a shopping experience at Costco is extremely high. (7)	○	○	○	○	○	○	○
The likelihood that Costco is reliable is very high. (8)	○	○	○	○	○	○	○
I think that Costco does not hide the important information I need to know. (9)	○	○	○	○	○	○	○
I believe that Costco respects its promises. (10)	○	○	○	○	○	○	○
I consider myself to be loyal to Costco. (11)	○	○	○	○	○	○	○
Costco would be my first choice. (12)	○	○	○	○	○	○	○

I intend to shop at Costco in the future. (13)	○	○	○	○	○	○	○
I am willing to recommend that others shop at Costco. (14)	○	○	○	○	○	○	○

Q43 Based on Costco's new store policy and the responses of Twitter users seen in the tweet you read, please indicate the extent to which you believe Costco:

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	
Did not intend to take advantage of its customers	○	○	○	○	○	○	○	Intended to to take advantage of its customers
Had good intentions	○	○	○	○	○	○	○	Had bad intentions
Was primarily motivated by its customer's best interest	○	○	○	○	○	○	○	Was primarily motivated by its own best interest

Q44 Overall, do you believe that Costco was "definitely not" vs "totally" responsible for the responses of Twitter users seen in the tweets you read?

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	
Definitely Not responsible	○	○	○	○	○	○	○	Totally responsible

Q45 To what extent do you blame Costco for the responses of Twitter users seen in the tweets you read?

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	
Not at all	○	○	○	○	○	○	○	Completely

End of Block: Costco post-measure

Start of Block: Demographic

Q46 Select today's date:

(Note, this question is intelligent about month lengths and leap years. You can set the year range by editing the first lines in the JS editor)

Month (1)	▼ January (1) ... (150)
Day (2)	▼ January (1) ... (150)
Year (3)	▼ January (1) ... (150)

Q47 In which country do you currently reside?

▼ Afghanistan (1) ... Zimbabwe (1357)

Q48 In which state do you currently reside?

▼ Alabama (1) ... I do not reside in the United States (53)

Q49 What is your year of birth?

_____

Q50 What is your sex?

- ○ Male (1)
- ○ Female (2)

Q51 Are you Spanish, Hispanic, or Latino or none of these?

- ○ Yes (1)
- ○ None of these (2)

Q52 Choose one or more races that you consider yourself to be:

- ☐ White (1)
- ☐ Black or African American (2)
- ☐ American Indian or Alaska Native (3)
- ☐ Asian (4)
- ☐ Native Hawaiian or Pacific Islander (5)
- ☐ Other (6) _____

Q53 What is the highest level of school you have completed or the highest degree you have received?

- Less than high school degree (1)
- High school graduate (high school diploma or equivalent including GED) (2)
- Some college but no degree (3)
- Associate degree in college (2-year) (4)
- Bachelor's degree in college (4-year) (5)
- Master's degree (6)
- Doctoral degree (7)
- Professional degree (JD, MD) (8)

End of Block: Demographic